Kennedy/Jenks Consultants

DATA REVIEW AND ASSESSMENT
POTENTIAL ADDITIONAL PRPs
PUENTE VALLEY OPERABLE UNIT

Stoody Company
16425 Gale Avenue
City of Industry

January 1996

K/J 954014.00

Prepared for:

Puente Valley Steering Committee

Prepared by:

Kennedy/Jenks Consultants
2151 Michelson Drive, Suite 100
Irvine, California 92715

STOODY COMPANY

This report presents Kennedy/Jenks Consultants (Kennedy/Jenks) evaluation of environmental conditions at the Stoody Company (Stoody) site based on information available through the Regional Water Quality Control Board, Los Angeles Region (RWQCB) files. The files reviewed contained documents dated through 15 March 1995. The synopsis herein highlights information which Kennedy/Jenks believes to be relevant to assessing whether Stoody should be considered as an additional PRP for the Puente Valley Operable Unit (PVOU). The synopsis is not intended to represent a complete summary of activities conducted at the subject site. The approximate location of the site relative to the PVOU is shown in Figure 1.

Basic information on the Stoody facility and operations was compiled by Putnam, Hayes & Bartlett, Inc. for the Puente Valley Steering Committee (PVSC) and is incorporated herein as an introductory section (Putnam, Hayes & Bartlett; October 1995 [1]). The technical information reviewed and evaluated by Kennedy/Jenks is summarized in this report in chronological order with reference to other consultants reports and RWQCB correspondence as appropriate; selected portions of relevant documents have been photocopied and included as attachments. This report does not present comprehensive figures or tables summarizing all previous consultant work.

Areas of Concern

The following areas were identified in file documents by the RWQCB or previous consultants as areas of concern.

Chemical Waste Storage Area

Chemical Waste Storage Area Sump

Electric Transformer Area

General Storage Area

Clarifier

Soil and Groundwater Conditions

The Stoody site is underlain by nonmarine alluvial sediments consisting primarily of sands, silty sands and silts. Gravelly sands are observed in some borings from approximately 10 to 46 feet below ground surface (bgs). An apparently discontinuous clayey silt to silty clay is also logged in some soil borings at approximately 25 feet bgs; this unit extends to at least 30 feet bgs, the total depth of the borings where it was encountered.

Depth to shallow groundwater beneath the Stoody facility has fluctuated from 24 to 30 feet bgs since monitoring began in 1989. Groundwater flow is generally toward the west-northwest.

Synopsis of Environmental Investigations

The RWQCB conducted a site inspection of the Stoody facility in March 1988 (RWQCB, March 1988). During the inspection, heavily stained, deteriorated asphalt was noted at the facility's chemical waste storage area and piping in the waste storage area sump allowed liquid to pass into an adjacent storm drainage channel. Signs of leakage were also observed from electric transformers at the site and in the facility's general storage area. The inspection form indicates that various solvents, including 1,1,1-TCA, are used for lubricating, cleaning parts, and degreasing as part of Stoody's welding wire and rod manufacturing process.

At the request of the RWQCB, a reconnaissance subsurface investigation was conducted at the facility to assess whether shallow subsurface soils in the chemical waste storage area, electrical transformer and general storage areas had been impacted by facility activities (Clayton Environmental Consultants; October 1988 [2]). Sludge from the chemical waste storage area sump and soils from five soil borings to 10 feet bgs were sampled. The predominant constituents of the sump sludge were petroleum hydrocarbons, but significant concentrations (280, 150 and 9.5 milligrams per kilogram [mg/kg]) of 1,2-dichloroethene (1,2-DCE), trichloroethene (TCE) and tetrachloroethene (PCE), respectively, were also reported. Shallow soil samples all reported low concentrations of petroleum hydrocarbons (10 to 150 mg/kg). Low concentrations of toluene were detected in soil samples collected from the chemical waste storage and electrical transformer areas. PCE was reported at a concentration of 220 micrograms per kilogram (µg/kg) in one soil sample, collected 5 feet bgs near the chemical waste storage area sump. Polychlorinated biphenyls (PCBs) were not reported in any sample.

Four groundwater monitoring wells were installed at the site in 1989 (Clayton Environmental Consultants, June 1989). No figures or tables from this report were available to review, but report text indicates that shallow groundwater samples from upgradient well MW-4 contained 1,1-DCE, TCE and PCE. Downgradient wells MW-1, MW-2 and MW-3 reported similar concentrations of one or more of these constituents. None of the volatile organic compounds (VOCs) reported in groundwater samples were detected in soil samples collected during the installation of the monitoring wells. In response to this investigation, the RWQCB requested that Stoody conduct a vadose zone investigation of the site, install an additional groundwater monitoring well downgradient of the clarifier and submit a company site audit.

Review of the Stoody Company site and chemical usage audit (Stoody Company; October 1989 [4]) confirms the use of 1,1,1-TCA onsite. No spills or releases at the site have been recorded other than "...some spillage from handling waste oils in the waste oil storage area." Stoody's manufacturing process does not route solvent waste to the clarifier, only wash down wastes from mixing machines and cooling tower bleed off water. Clarifier sludge has tested non-hazardous and has been disposed of as such. A site map presented in the audit shows the locations of past and current solvent use and storage areas, including the locations of the 1,1,1-TCA storage area and vapor degreaser.

In response to the RWQCB, Stoody completed five additional soil borings (three near the chemical waste storage area and two near the clarifier) and sampled the clarifier sludge and liquid (Clayton Environmental Consultants; February 1990 [5]). Total depth of the soil borings was approximately 10 feet bgs. Soil samples collected near the chemical waste storage area sump contained trans-1,2-DCE, TCE and PCE at concentrations ranging to 700, 10 and 82 µg/kg, respectively. PCE was also reported at concentrations ranging from 8 to 160 µg/kg in soil samples collected from the other two borings completed in the chemical waste storage area. Very low concentrations (3 to 10 µg/kg) of trans-1,2-DCE, TCE and PCE were detected in soil samples collected from borings near the clarifier, but the predominant constituents of concern reported in these soil samples were acetone (100 to 1,100 µg/kg), toluene (4 to 600 µg/kg), 2-butanone [MEK] (80 to 100 µg/kg) and xylenes (13 to 75 µg/kg). Waste oil was detected in these soil samples at concentrations up to 5,000 mg/kg. The clarifier sludge sample contained 0.8 mg/kg trans-1,2-DCE, 5 mg/kg toluene and 8,000 mg/kg waste oil. Clarifier liquid contained 640 mg/kg toluene. The clarifier sludge was also analyzed for total metals; all concentrations were well below California total threshold limit concentrations (TTLC).

Additional subsurface investigation activities at the chemical waste storage area sump and clarifier were conducted in late 1990 and early 1991 (Clayton Environmental Consultants; April 1991 [6]). Four deep soil borings were drilled and sampled to 30 feet bgs, the depth to the water table at the time of field activities, and a fifth groundwater monitoring well (MW-5) was installed adjacent to the clarifier. Quarterly groundwater monitoring was also initiated at this time (Clayton Environmental Consultants; March 1991 [7]). Results of soil sampling adjacent to the sump suggest that shallow soils were impacted with chlorinated volatile organic compounds (VOCs) to a depth less than 10 feet bgs. In both soil borings 1,2-DCE, TCE and/or PCE were reported in soil samples collected at 1 and 5 feet bgs, decreasing in concentration with increasing depth, and no chlorinated VOCs were reported in samples collected at 10 or 15 feet bgs. Low chlorinated VOC concentrations were also reported in soil samples collected from 20 to 30 feet bgs. Deeper soils may have been impacted from surface activities, but could also have been affected by fluctuating groundwater impacted by an offsite source. Low concentrations (less than or equal to 0.026 mg/kg) of toluene and acetone were also reported in soil samples collected near the sump. Soil samples collected near the clarifier generally show low concentrations (less than or equal to 90 mg/kg) of total recoverable petroleum hydrocarbons (TRPH) to 30 feet bgs. In one soil boring, TRPH concentrations in the near surface were reported to 21,000 mg/kg. Individual constituents reported include toluene, acetone, xylenes and ethylbenzene. Minor impacts (0.04 and 0.02 mg/kg) of PCE and 1,2-DCE, respectively, were reported in two samples collected at 5 and 15 feet bgs near the clarifier.

The clarifier, sump and associated impacted soils were removed in late 1991 (Clayton Environmental Consultants; May 1992 [8]). The soils at the clarifier were excavated to a depth of approximately 15 to 17.5 feet bgs. Sampling of bottom and sidewalls of the excavation indicated that elevated concentrations of petroleum hydrocarbons remained in some areas. TRPH concentrations ranged to 25,000 mg/kg on the sidewalls and to 3,700 mg/kg at the base of the excavation. Low concentrations (0.005 to 0.030 mg/kg) of PCE were reported in some of the sidewall samples, but were not detected in samples collected from the bottom of the excavation. Further soil removal in the clarifier

area was recommended by Clayton Environmental Consultants. The chemical waste storage area sump was removed and soils excavated to a depth of approximately 10 to 14 feet bgs. The soil sample collected at the base of the excavation reported no detectable concentrations of any constituent of concern. One sidewall sample contained 0.032 mg/kg PCE and 0.005 mg/kg toluene, which were below cleanup levels set by the RWQCB. No further soil removal was recommended at the sump area.

Assessment and remediation of the soils around the clarifier continued through 1993. Through a series of soil borings, the approximate limits of impacted soils around the clarifier were defined (Clayton Environmental Consultants; September 1992 [9]). Using a bucket auger method and cleanup goals established in a remedial action plan approved by the RWQCB (Clayton Environmental Consultants; September 1992 [10]), Stoody completed excavation of soils from the clarifier area (Clayton Environmental Consultants; May 1994 [11]). Analytical results from removed soils show elevated TRPH results (greater than 81,848 mg/kg) to groundwater directly beneath the former clarifier location. VOCs detected included toluene, ethylbenzene and xylenes. Chlorinated VOCs were not reported in any soil sample.

Quarterly groundwater monitoring at Stoody continued through the first quarter of 1994 (Clayton Environmental Consultants; May 1994 [12]). Analytical data for 1,1-DCE, PCE, 1,1,1-TCA and TCE for the approximately five years of groundwater monitoring are summarized in the final quarterly report. These data do not support the conclusion that activities conducted at the Stoody facility have adversely impacted groundwater with chlorinated VOCs.

In a letter dated 31 January 1995, the RWQCB granted Stoody "No Further Action" status, stating that impacted soils in the chemical waste storage and clarifier areas have been adequately assessed and remediated (RWQCB; January 1995 [13]). This letter also presents the RWQCB's conclusion that groundwater beneath the facility has been impacted with chlorinated VOCs due to activities conducted at the facility. Stoody responded to the RWQCB in a letter (Clayton Environmental Consultants; March 1995 [14], refuting this conclusion.

Assessment

Available data reviewed by Kennedy/Jenks indicate that Stoody Company is a moderate candidate as an additional PRP. The results of investigations conducted to date indicate that activities at the Stoody facility have impacted shallow soils and groundwater with non-chlorinated VOCs and petroleum hydrocarbons. Shallow soils have been impacted with 1,2-DCE, TCE and PCE, but analytical data from areas investigated do not support the conclusion that groundwater has been adversely impacted by chlorinated VOCs originating from the Stoody site. However, several areas warranting assessment, including a 1,1,1-TCA storage area and vapor degreaser, have not been investigated.

Files Reviewed

Clayton Environmental Consultants, 1995. Letter - Response to RWQCB No Further Action letter, from Gustavo Valdivia to Rueen Fang-Wang (RWQCB), dated 15 March 1995.

Clayton Environmental Consultants, 1994. Closure and Soil Remediation Report, 23 May 1994.

Clayton Environmental Consultants, 1994. Fourth Quarter Groundwater Monitoring Report of 1993, 10 February 1994.

Clayton Environmental Consultants, 1994. First Quarter Groundwater Monitoring Report of 1994, 23 May 1994.

Clayton Environmental Consultants, 1993. Third Quarter Groundwater Monitoring Report of 1992, 3 May 1993.

Clayton Environmental Consultants, 1993. Fourth Quarter Groundwater Monitoring Report of 1992, 3 May 1993.

Clayton Environmental Consultants, 1992. Soil Remediation for Clarifier and Sump Report, 15 May 1992.

Clayton Environmental Consultants, 1992. Remedial Action Plan for Additional Soil Removal Near the Removed Clarifier, 14 September 1992.

Clayton Environmental Consultants, 1992. First Quarter Groundwater Monitoring Report of 1992, 30 April 1992.

Clayton Environmental Consultants, 1992. Additional Subsurface Soil Investigation Near the Removed Clarifier Report, 14 September 1992.

Clayton Environmental Consultants, 1991. Third Quarter Groundwater Monitoring Report of 1991, 16 September 1991.

Clayton Environmental Consultants, 1991. Second Quarter Groundwater Monitoring Report of 1991, 2 July 1991.

Clayton Environmental Consultants, 1991. Fourth Quarter Groundwater Monitoring (Annual) Report of 1991, 18 December 1991.

Clayton Environmental Consultants, 1991. First Quarter Groundwater Monitoring Report of 1991, 8 March 1991.

Clayton Environmental Consultants, 1991. Additional Subsurface Sump and Clarifier Investigation Report, 16 April 1991.

Clayton Environmental Consultants, 1990. Subsurface Soil Investigation and Industrial Clarifier Report, 28 February 1990.

Clayton Environmental Consultants, 1989. Second Quarter Groundwater Monitoring Report of 1989, 18 September 1989.

Clayton Environmental Consultants, 1989. Groundwater Monitoring Investigation, 22 June 1989.

Clayton Environmental Consultants, 1988. Initial Subsurface Soil Investigation Report and Groundwater Monitoring Workplan, 19 October 1988.

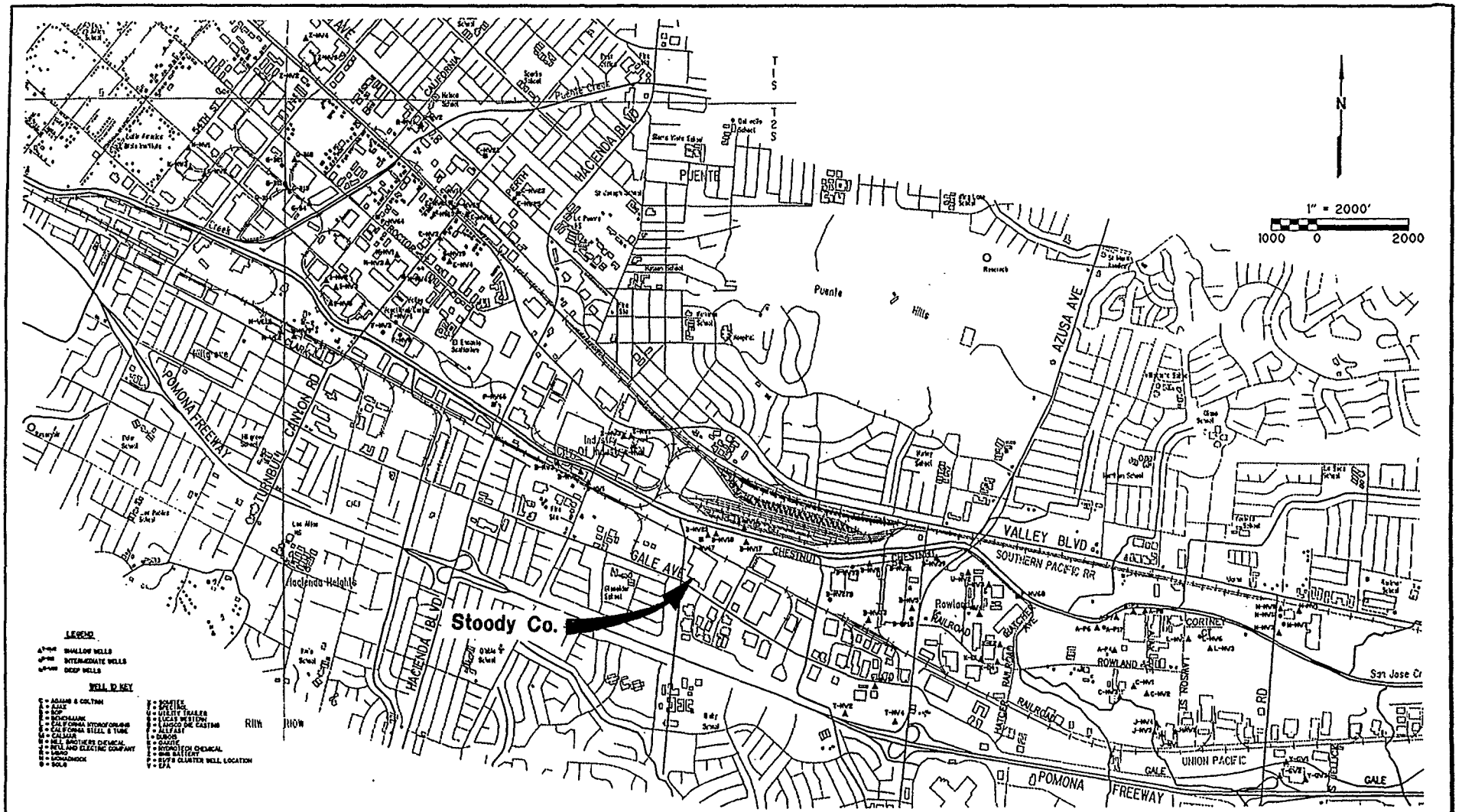
RWQCB, 1995. Letter - Regarding No Further Action for the Stoody Site, from Eric Nupen to Phillip Ransey (USEPA), dated 17 January 1995.

RWQCB, 1995. Letter - Regarding No Further Action for the Stoody Site, from Eric Nupen to Martin S. Casper (Thermadyne Holdings Corp.), dated 31 January 1995.

RWQCB, 1989. Letter - Response to Groundwater Investigation, from Roy Sakaida to Hal Kahlen (Stoody Inc.), dated 17 August 1989.

RWQCB, 1988. Memo - Regarding Stoody site inspection, from Dainis Kleinbergs to File No. AB 105.263, dated March 1988.

Stoody Company, 1989. Site Audit - Chemical Use, October 1989.



Drawing from Camp Dresser & McKee Inc,
Puente Valley OU RI/FS, September 19,1995

Kennedy/Jenks Consultants

Puente Valley Steering Committee
City of Industry, California

Site Location Map
Puente Valley Operable Unit

January 1996
K/J 954014.00

Figure 1

REFERENCE [1]

PUTNAM, HAYES & BARTLETT, INC.
PUENTE VALLEY OPERABLE UNIT, POTENTIAL PRP SUMMARY
STOODY COMPANY, UNAUDITED DRAFT
4 OCTOBER 1995

Generator: **Stoody Company/Stoody Deloro Satellite, Inc.**

Facility Address:
16425 Gale Avenue
City of Industry, CA 91745

The business was not listed in the Industry Manufacturers Council's City of Industry 1993 Directory.

Business/Other Address:
Headquarters Location:
Stoody Deloro Satellite, Inc.
Stoody Company
101 South Hanley Road
Suite 300
Saint Louis, MO 63105-3406
James Mills
CEO
(314) 727-1701 Telephone

Contact:
Nicole Jafari
Hal Kahlen

Affiliated Parties:
Stoody Deloro Satellite, Inc.
Thermadyne Holdings Corporation

Other Information:

This evaluation is based on data current as of January 1994. We have collected and evaluated on-line data sources, CRWQCB documents available at that time, and other sources (as referenced). The purpose of this document is to provide information so that the Puente Valley Steering Committee (PVSC) and/or the U.S. Environmental Protection Agency (EPA) can evaluate whether this party should be pursued as a PRP. There is an important qualification to these Phase 1 results.

Per the direction of the PRP Search Committee, and in order to meet the objectives of the Phase 1 investigation in the most cost-effective manner, the PRP Consulting Team intentionally did not review all of the information available from all public sources for each potential PRP; the analysis focused on a review of CRWQCB documents since they appear to provide the most comprehensive data source for the parties under evaluation and also provide technical data as well as conclusions reached by the Board's technical staff with regards to the nature and source of media contamination.

We have also been selective in the information we have included in each potential PRP summary; we have not attempted to cite every piece of information that can be used to evaluate a party. Rather, we have provided information which appear to be "sufficient" to link the PRP to contamination at the site. We have selected information that most strongly suggests that a potential PRP should be named as a PRP by the EPA. Our analysis has also not been limited to any specific contaminant. At the direction of the PRP Search Committee we have evaluated evidence of hazardous substances linking the party without regard as to whether those contaminants are critical to the selection of remedial actions. (At the time this analysis was conducted in early 1994, remedial investigations were underway.)

In many cases we have listed the technical and other arguments made by the potential PRPs in support of their claims that they have not contaminated groundwater and/or soil at their facilities. However, given the direction of the PRP Search Committee, we have not evaluated these arguments and there may be additional or more recent information that contradicts in whole or in part the information we cite in our potential PRP summaries.

Current PVOU Status:

This party was a PVOU General Notice Recipient (as of January 1994).
This party did not receive a Special Notice (as of January 1994).

Generator Background:

Business:

The Stoody Company (Stoody) is a Division of Stoody Deloro Satellite, Inc. Stoody is a manufacturer of welding consumables (welding rods and wires) and specialized die-cast, wear-resistant alloy parts. [1]

The alloy materials used in the manufacturing process consist of powdered metals and minerals. Metals such as chromium, nickel, cobalt and manganese are used. The solvent type materials used by Stoody Company are not a part of the finished product but are used for lubricating, cleaning parts, vapor degreaser, etc. [2]

Operation Period:

Stoody began operations on the site in 1976. [1]

Corporate Status:

A division of Stoody Company, which was incorporated in the State of California in 1979.

Source references are in brackets (e.g., [1:1]), where the first number refers to the source document, which are listed at the end of this summary, and the second number refers to the applicable page number.

Sales:	Not available for this facility. Parent company has sales in excess of $70.2 million (1993 data). [8]
Number of Accounts:	Not available for this facility. Parent company has 1,000 accounts (1993 data). [8]
Net Worth:	Not available for this facility (1993 data). [8]
Employees:	4 currently at this facility (1993 data). [8]
Facility:	Not available for this facility (1993 data). [8]
Prior Owners:	Not applicable.
Prior Operations:	Prior to 1976 the facility area was used as farmland. [1]
EPA Documentation:	
Generator:	*Generates at least 1,000 kg/month of non-acutely hazardous waste or 1 kg/month of acutely* hazardous waste (1983 data). [9]
Owner/Operator Status:	The facility is a generator and/or transporter, but not a TSDF (1983 data). [9]
EPA-ID:	CAD008488504 (1983 data). [9]
Basis for Linkage:	This party should be identified as a PRP; both soil and groundwater data evaluated by the CRWQCB indicate the presence of hazardous substances — including TCE and PCE — at the facility. These same data further indicate that this party is an on-site source for this contamination.

Shallow Groundwater Contamination:

Confirmed. Groundwater samples from monitoring wells at the Stoody facility revealed the presence of 1,1-dichlorethene, trichlorethene, and tetrachloroethene:

Of the various compounds detected in groundwater samples from Monitoring Well MW-1, three exceeded their SALs; 1,1-dichlorethene at 31 µg/kg (6 ppb SAL), trichlorethene at 130 µg/kg (5 ppb SAL), and tetrachloroethene at 190 µg/l (100 ppb SAL). However, all three compounds were also detected in the upgradient well (MW-4). These compounds were not detected in the soil samples collected from either the MW-1 location or from the MW-4 location. These data indicate an offsite source of the compounds detected in the groundwater.

The groundwater samples collected from Monitoring Well-3 contained two compounds that exceeded their SALs; trichloroethene at 25 µg/l (5 µg/l SAL) and tetrachloroethene at 64 µg/l (4 µg/l SAL). However, as before, these compounds were also detected in the upgradient MW-4 groundwater samples and were not detected in the soil samples collected from the MW-3 location or the MW-4 location. Once again, an offsite source for these compounds is indicated. [3]

From these findings, Stoody consultants concluded that discharge was from an off-site source:

> Analytical results of the groundwater samples collected from Monitoring Well MW-2 report that seven compounds were detected (Table 3). Of these, five exceeded their SALs. However, three of these compounds were also detected in the upgradient well (MW-4) groundwater samples and were not detected in soil samples collected onsite. Additionally, the other two compounds detected in the MW-2 groundwater sample were not detected in soil samples collected onsite. This again indicates an offsite source for these compounds. [3]

However, RWQCB review of the report referenced above appear to confirm contaminants found in ground water samples near the hazardous and waste materials storage area and sump:

> Review of ground water data indicates an increase in levels of tetrachloroethylene (PCE), trichloroethylene (TCE) and 1,1-dichloroethylene (1,1-DCE), and the introduction of benzene, toluene, and chlorobenzene levels recorded in downgradient monitoring wells MW-1 and MW-2 versus concentration levels recorded in upgradient well MW-4. The wells MW-1 and MW-2 are located downgradient of the hazardous and waste materials storage area and sump in which PCE, TCE, DCE, and toluene were detected in soil and sludge samples previously analyzed (Initial Subsurface Soil Investigation Report — October 19, 1988). [4]

After the removal of the clarifier in 1990 [See section under Documented Releases], groundwater samples still revealed five compounds with concentrations exceeding the USEPA maximum contaminant level (MCL) or DHS the drink water action level (DWAL):

Carbon tetrachloride was detected at concentrations ranging from 0.6 to 1.0 µg/l. These concentrations exceed the MCL for this compound of 0.5 µg/l. 1,2 Dichloroethane was detected only in Well MW-3 at a concentration of 0.7 µg/l. 1,1 Dichloroethene was detected at concentrations ranging from 11 to 25 µ/L. These concentrations exceed the MCL for this compound of 6.0 µg/l. Tetrachloroethene was detected at concentrations ranging from 55 to 140 µg/l. These concentrations exceed the DHS DWAL for this compound of 5 µg/l. Trichloroethene was detected at concentrations ranging from 32 to 65 µg/l. These concentrations exceed the DHS DWAL for this compound of 5 µg/l.

Soil Contamination:

Confirmed. Soil samples obtained adjacent to the sump located in the barrel storage area detected high concentrations of volatile organic compounds (VOCs) and total petroleum hydrocarbons (TPH). Analysis of "Board split samples" detected the following compounds: t-1,2-DCE (concentration of 393 µg/kg), c-1,2-DCE (126 to 3500 µg/kg), TCE (147 µg/kg), 1,1,2-TCA (37 µg/kg), PCE (100 to 907 µg/kg), Toluene (73 µg/kg), Chlorobenzene (17 µg/kg), MIK (100 µg/kg) and TPH (4875 mg/kg). [3]

Other compounds detected in soil samples at the facility were carbon disulfide (concentration of 7 µg/kg), acetone (30 to 48 µg/kg), and methylene chloride (52 µg/kg). [3]

Soil Gas Evaluation:

Not applicable.

Documented Releases:

Confirmed. Based on reports submitted by Stoody consultants, RWQCB determined sources of discharge to the subsurface from the industrial waste clarifier and sump:

> Up to percentage level of total petroleum hydrocarbons (TPH) was found near the underground clarifier. Elevated concentrations of various volatile organic compounds (VOC) were also detected down to 30 feet below ground surface (bgs) in that area. These results, combined with those from a previous study, are evidence that the subject industrial waste clarifier is a source of subsurface contamination.
>
> Up to 410 µg/kg of total 1,2-dichloroethene, 170 µg/kg of PCE and elevated concentrations of various VOC and TPH were found in soil samples down to 30 feet bgs adjacent to a backfilled sump in the former hazardous chemical storage area. These results and those from a previous study confirmed discharge of contaminants to the subsurface from the sump and the surrounding area. [5]

Subsequently, the RWQCB required Stoody to submit a work plan and perform an approved Remediation Action Plan (RAP). The RAP was remediation associated with the removal of a clarifier and sump at the Stoody facility. [6:1]

According to Stoody consultants' summary of events regarding removal of the sump,

> On November 4, and November 5, 1991, Clayton excavated around and removed the waste water sump in the former chemical storage area. The soil under and around the sump was found to be contaminated.
>
> On November, 12, 1991, the soil samples submitted for analysis from the sump excavations indicated that slightly elevated levels of total recoverable petroleum hydrocarbons (TRPH), tetrachloroethene, and acetone existed in the sidewalls and bottom of excavation.
>
> Laboratory analysis of SP-8-P revealed a TRPH level of 5,600 ppm and detected concentrations of four VOC compounds. [6:7-8]

Stoody consultants recommended excavation of additional contaminated soil along the sidewalls and below the previous excavation limits:

> The analytical results indicate that unacceptably high levels of TRPH still exists in the soil surrounding and below the excavation. CRWQCB personnel will likely require further excavation to remove soil containing TRPH at levels in excess of 10.0 ppm. Clayton [Stoody consultant] recommends the excavation of additional contaminated soil from the former clarifier area. This excavation work should be conducted under a Remedial Action Plan/Workplan similar to the current plan used for this phase of remediation. [6:10]

Housekeeping/Handling Issues:

On March 1988, RWQCB staff noted the following improper housekeeping and handling practices of Stoody:

CHEMICAL WASTE BARREL STORAGE AREA

This area is located in the northeast corner of your facility property. Barrels containing waste oils and other chemicals are stored here. Stains confirm discharge to the asphalt on which barrels are resting. Review of facility Material Safety Data Sheets show that 'TAPMATIC', a lubricating oil containing 1,1,1-TCA had been previously stored in this area. Cracked and deteriorated asphalt provide pathways to soil and possibly ground water.

The storage area is surrounded by a partial berm. A Sump is located on the northwest corner of the storage area. Overflow from the sump exists in the storage area via an outlet pipe, and ultimately discharges to a storm drain. Stains can be observed in the gutter from the end of the outlet pipe to the storm drain. The sump contains runoff water, oils, and possibly other chemicals.

ELECTRICAL TRANSFORMERS

Oil was observed leaking from three transformers located adjacent to your facility building. Although the transformers are located on a concrete pad, the oil is not contained and allowed to leak onto the adjacent asphalt. The oil can then either continue to the gutter and discharge to the storm drain, or it can infiltrate into the underlying soil from the holes and cracks in the asphalt.

GENERAL STORAGE AREA

This area was located behind the facility building on the north and northwest areas of the property. The area is being used to store barrels containing manufacturing and process wastes, trash dumpsters, and spare machinery parts. Stains could be observed on the asphalt, indicating discharge to an adjacent storm drain. [7]

Use and Storage of Hazardous Substances:

Confirmed. The following materials have been identified on RCRIS as having been used and/or stored at this facility:

D004 EP toxic arsenic

In addition, the following solvent-type chemicals are purchased by Stoody Company:

Item:	Manufacturer:
PEMS 11421-EM Lubricant	Pemaco Inc.
Wash Thinner	Shasta Petroleum
Acetone	Van Waters & Rogers
DL-500 Lubricant	P.D. & M Industries, Inc.
1,1,1 Trichloroethane	Van Waters & Rogers [2]

Cooperation with Regulatory Agencies:

Stoody appears to be cooperating with RWQCB.

Location Relative to Known Groundwater Contamination:

Confirmed that it is proximate to groundwater contamination.

Other Issues:

Other than issues identified in other sections, no other issues are identified.

Other Facilities Identified:

Thermadyne Holdings Corporation — corporate parent company.

SOURCES

1. "Initial Subsurface Soil Investigation Report and Groundwater Monitoring Workplan for Stoody Company, Industry, California," Clayton Project No. 49537-73, Clayton Environmental Consultants, October 19, 1988.

2. "Stoody Company Site Audit — Chemical Use," conducted October 1989.

3. "Groundwater Monitoring Investigation at Stoody Company, City of Industry, California," Clayton Project No. 21171.00, Clayton Environmental Consultants, June 22, 1989.

4. Letter to Hal Kahlen, Stoody/Stoody Deloro Satellite, Inc., from CRWQCB — Los Angeles Region, August 17, 1989.

5. Letter to Nicole Jafari, Stoody Company, from CRWQCB — Los Angeles Region, July 3, 1991.

6. "Soil Remediation for Clarifier and Sump at Stoody Company, City of Industry, California," Clayton Project No. 37861.00, Clayton Environmental Consultants, May 15, 1992.

7. Letter to Hal Kahlen, Stoody/Stoody Deloro Satellite, Inc., from CRWQCB — Los Angeles Region, May 4, 1988.

8. *D&B Duns Market Identifiers*, Dun & Bradstreet Inc. 1993.

9. VISTA Environmental Information, Inc. RCRIS/HWDMS — on-line database for summary information on RCRA generator status and materials handled on site.

10. California Secretary of State, Corporate Record — on-line database for corporation summary information.

REFERENCE [2]

INITIAL SUBSURFACE SOIL INVESTIGATION REPORT
CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
19 OCTOBER 1988

2.0 INITIAL SUBSURFACE SOIL INVESTIGATION

2.1 OBJECTIVE

As outlined in CRWQCB correspondence, the objective of the subsurface soil investigation was to assess the potential for groundwater contamination from possible leakage or spillage of materials onsite.

Four areas of concern were investigated during the field operations. These are shown on Figure 2 and are described as follows:

- Chemical Waste Barrel Storage Area: Asphalt and concrete-paved area in the northeast corner of the facility. Barrels (55-gallon drums) containing waste oils and solvents are stored in this area. Staining was noted by CRWQCB personnel on the asphalt beneath and adjacent to the barrels.

- Chemical Waste Storage Area Sump: Small 2.5- by 2.5- by 2-foot (length, width, depth) sump in the northwest corner of the barrel storage area. Piping in the sump allows liquids to pass into an adjacent storm drainage channel. Stains were observed in this channel at the end of the sump outlet piping.

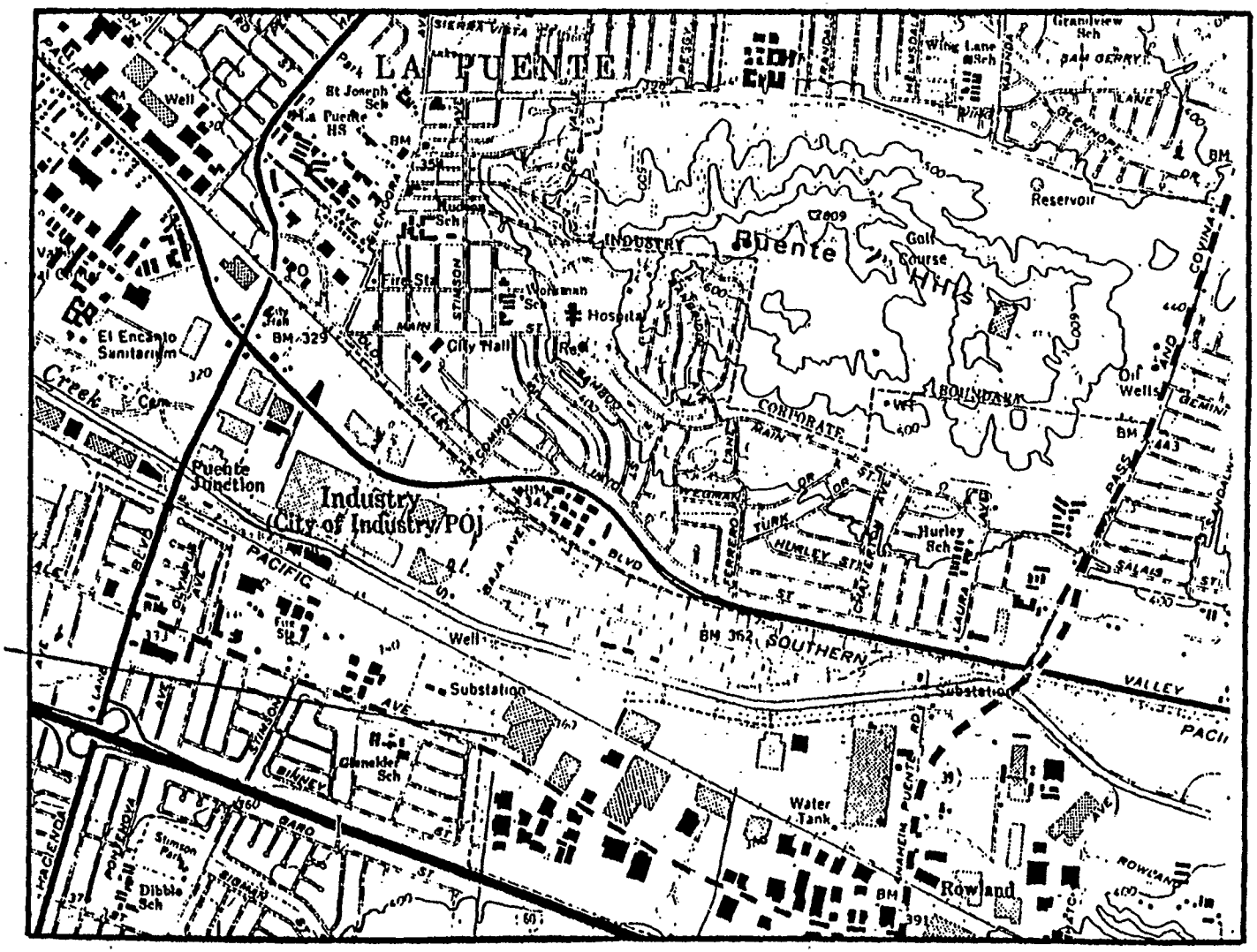
- Electrical Transformer Area: Located on a concrete slab at the northeast corner of the main building. Oil stains were observed in the immediate vicinity of the three transformers, on the concrete slab, and on the adjacent asphalt.

- General Storage Area: Asphalt-paved area located behind the main building on the north and northwest sides of the facility. Spare machinery parts and barrels containing manufacturing wastes are stored in this area. Staining was noted on the asphalt near the storm drain in the northwest portion of the area.

2.2 FIELD ACTIVITIES

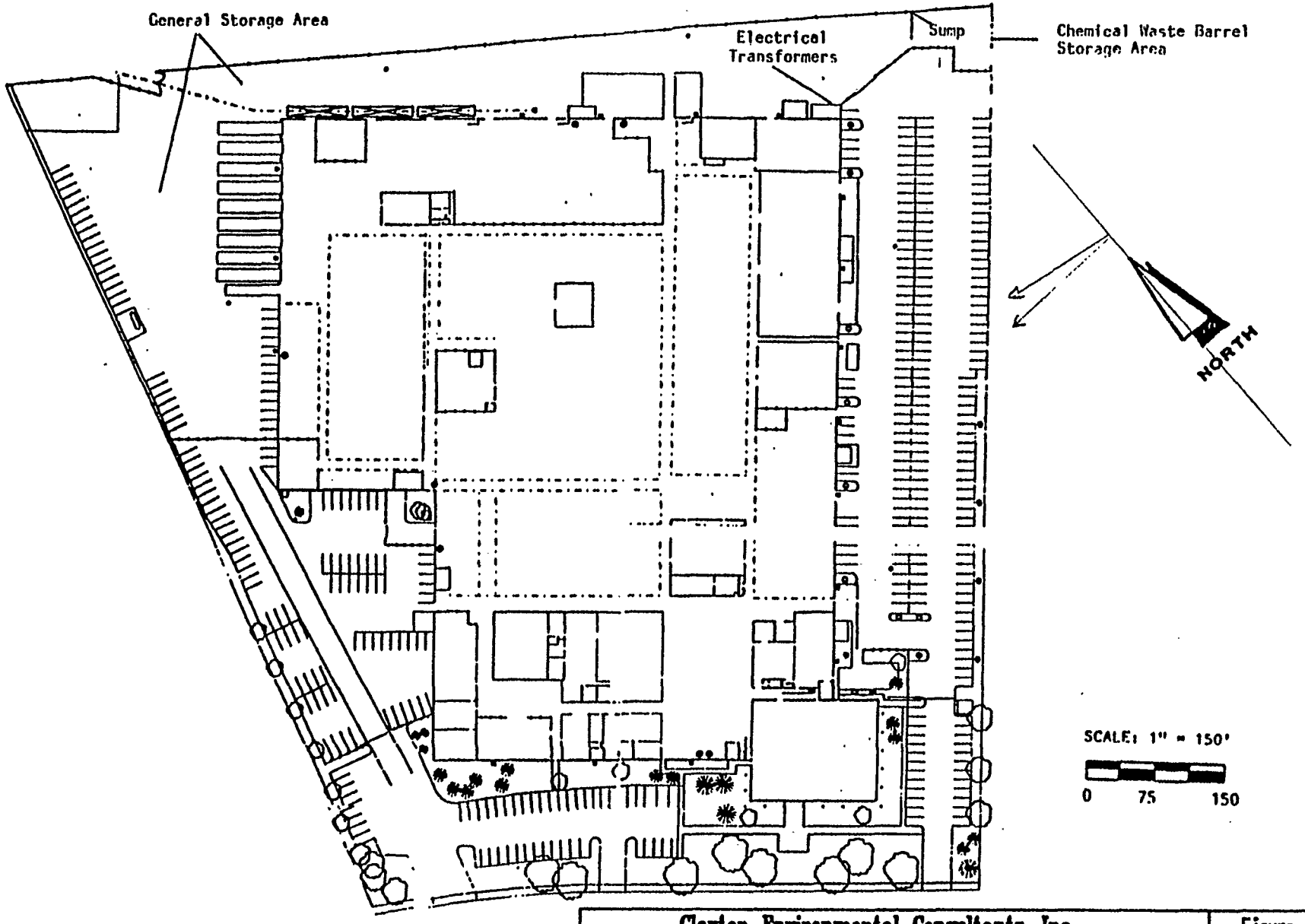
2.2.1 Sludge Sample Collection

On July 19, 1988, Clayton field personnel collected samples of the sludge contained in the chemical waste barrel storage area sump. Two samples were obtained using a precleaned plastic ladle and placed in half-

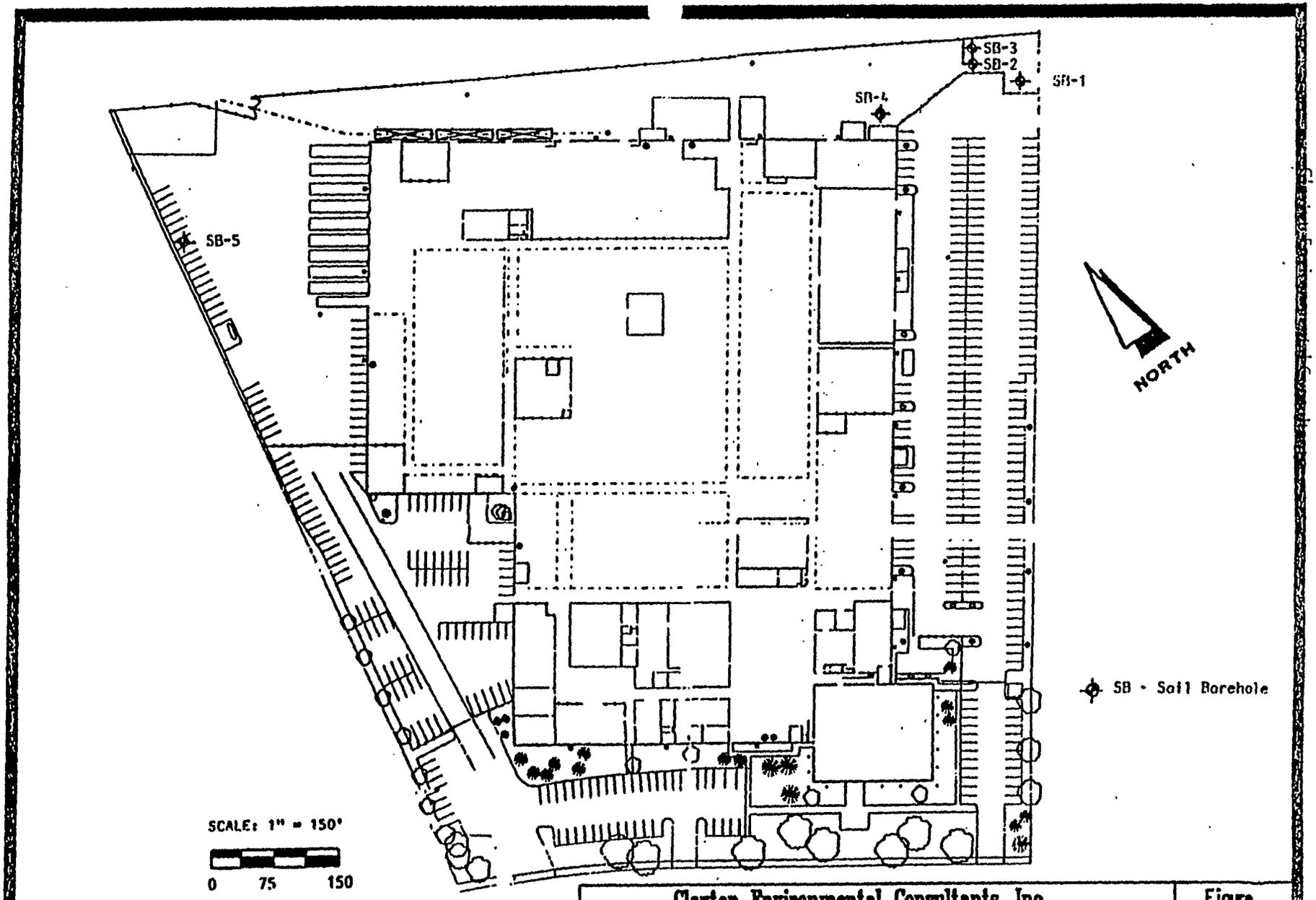


Basemap from USGS, 1966, Baldwin Park Quadrangle, 7½ Minute series (topographic), photorevised 1981

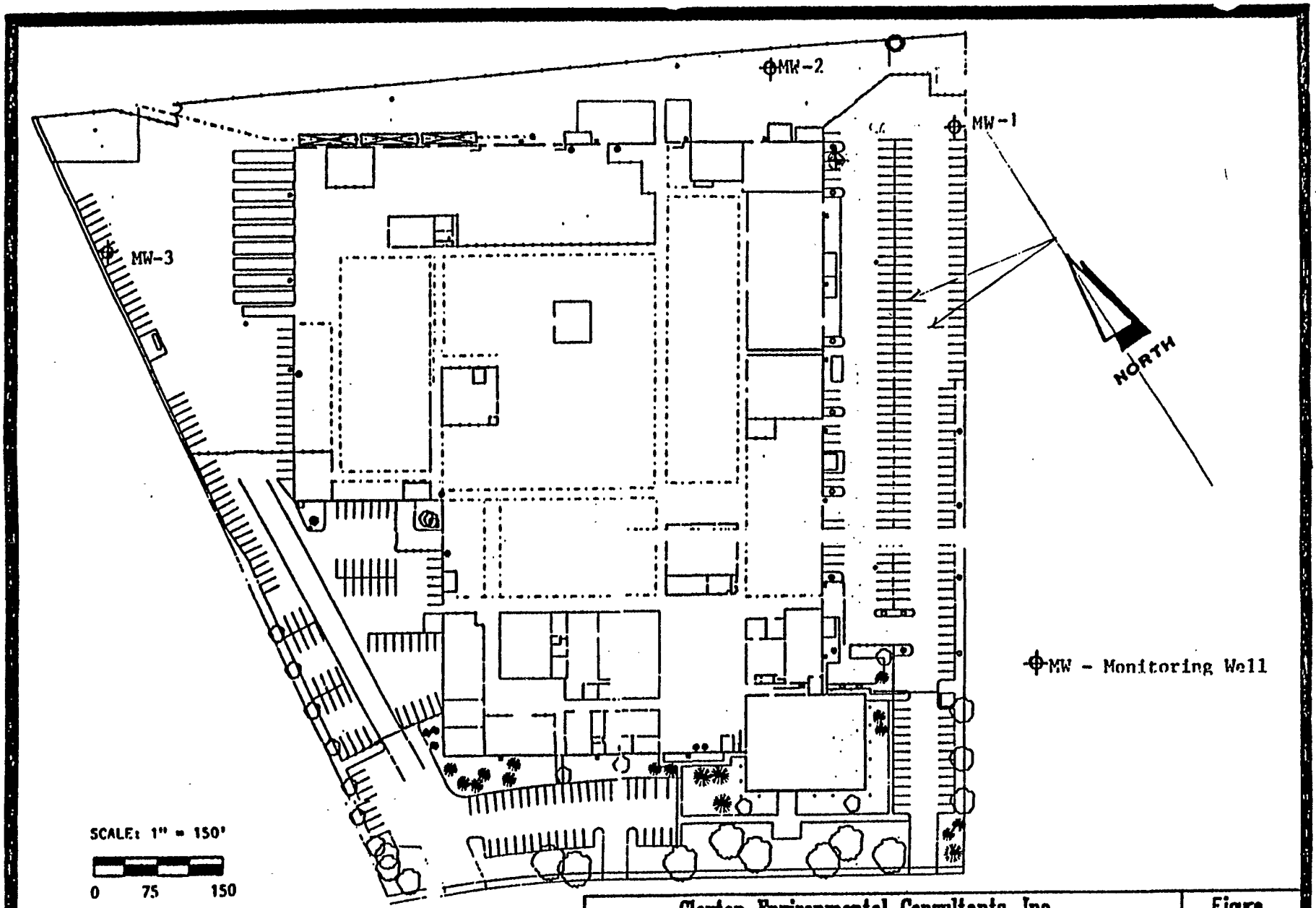
Clayton Environmental Consultants, Inc.	Figure
STOODY COMPANY GENERAL SITE LOCATION	1
Project No. 40527.72	



Clayton Environmental Consultants, Inc.	Figure
STOODY COMPANY FACILITY MAP Showing Areas of Concern As Outlined by The Regional Water Quality Control Board	2
Stoody Company — Project No. 49537-73	10/88



Clayton Environmental Consultants, Inc.		Figure
STOODY COMPANY SOIL BOREHOLE LOCATION MAP		3
Stoody Company	Project No. 49537-73	10/88



Clayton Environmental Consultants, Inc.	Figure
STOODY COMPANY Groundwater Monitoring Well Location Map	4
Project No. 49537-73	10/88

Clayton Environmental Consultants

TABLE 2

ANALYTICAL RESULTS OF SOIL SAMPLES
ANALYZED BY EPA METHOD 418.1
FOR TOTAL PETROLEUM HYDROCARBONS

Borehole	Sample Depth (feet bgs)	Concentration (mg/kg)
SB-1	1	13
SB-1	5	14
SB-2	1	14
SB-2	5	15
SB-3	5	21
SB-4	1	150
SB-4	5	10
SB-5	1	15
SB-5	5	13

Detection limit = 10 mg/kg

TABLE 3

ANALYTICAL RESULTS OF SOIL SAMPLES
ANALYZED BY EPA METHODS 8010 AND 8020, 8015 and 8080

Borehole	Sample Depth (feet bgs)	Compound Concentrations and EPA Analytical Methods Used			
		8010	8020	8015	8080
SB-1	1	ND	Toluene 0.06	ND	ND
	5	ND	ND	ND	ND
	10	ND	ND	ND	ND
SB-2	1	ND	ND	ND	ND
	5	ND	ND	ND	ND
	10	ND	ND	ND	ND
SB-3	5	Tetrachloro-ethene, 0.22	Toluene 0.09	ND	ND
	10	ND	Toluene 0.06	ND	ND
SB-4	1	ND	Toluene 0.08	ND	ND
	5	ND	Toluene 0.07	ND	ND
	10	ND	ND	ND	ND
SB-5	1	ND	ND	ND	ND
	5	ND	ND	ND	ND
	10	ND	ND	ND	

All compound concentrations are given in milligrams per kilogram (mg/kg)

*ND - not detected for those detection limits as listed in the analytical reports.

TABLE 4

ANALYTICAL RESULTS OF SUMP SAMPLE
ANALYZED BY EPA METHODS 8010 AND 8015

Analytical Method	Constituent Detected	Concentration mg/kg
EPA 8010	Total - 1,2 Dichloroethene	280
EPA 8010	Trichloroethene	150
EPA 8010	Tetrachloroethene	9.5
EPA 8015	Oil	270,000
EPA 8015	Other Hydrocarbons	8,100

REFERENCE [3]

GROUNDWATER MONITORING INVESTIGATION
CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
22 JUNE 1989

4.0 DISCUSSION

As stated in Sections 3.1 and 3.2, various chemical compounds were detected in some of the soil and groundwater samples that were submitted for analysis. In the following section we will recap our discussion of these compounds as given in Sections 3.1 and 3.2. Additionally, we will discuss the significance of the absence (in the soil samples) of compounds detected in the groundwater. The concentrations of the detected compounds were compared to drinking water action levels (State Action Levels or SALs) developed by the California Department of Health Services (DHS; January 1987), and to guidance cleanup levels developed by the California Regional Water Quality Control Board, Central Valley Region (CRWQCB, November 1985, revised September 1987), and designated levels to protect groundwater in a solid as developed by the CRWQCB. The guidance cleanup level values were taken from examples of designated levels of chemical compounds for a hypothetical "average" site in a solid (soil) to protect groundwater.

Of the soil samples collected in Boreholes SB-5, SB-6, and SB-7, only one contained detectable concentrations of a chemical compound. Carbon disulfide, at a concentration of 7 ug/kg, was found in the sample collected at 25 feet bgs in SB-6 (converted to MW-2). No SAL, guidance cleanup level, or designated level was listed for this compound.

Relatively minor concentrations of acetone were detected in the MW-4 soil samples. As indicated in Table 2, this compound was detected in the samples collected at 5, 10, 15, 20, and 25 feet bgs at concentrations of 30, 34, 37, 45, and 48 ug/kg, respectively. No SAL, guidance cleanup level, or designated level was listed for acetone.

The soil sample collected at 20 feet bgs in MW-4 was found to contain methylene chloride at a concentration of 52 ug/kg. This is slightly above the 40 ppb SAL for methylene chloride.

Of the various compounds detected in groundwater samples collected from Monitoring Well MW-1, three exceeded their SALs; 1,1-dichloroethene at 31 ug/kg (6 ppb SAL), trichloroethene at 130 ug/kg (5 ppb SAL), and tetrachloroethene at 190 ug/L (100 ppb SAL). However, all three compounds were also detected in the upgradient well (MW-4). These compounds were not detected in the soil samples collected from either the MW-1 location or from the MW-4 location. These data indicate an offsite source for the compounds detected in the groundwater.

The groundwater samples collected from Monitoring Well MW-3 contained two compounds that exceeded their SALs; trichloroethene at 25 ug/L (5 ug/L SAL) and tetrachloroethene at 64 ug/L (4 ug/L SAL). However, as before, these compounds were also detected in the upgradient MW-4 groundwater samples and were not detected in the soil samples collected from the MW-3 location or the MW-4 location. Once again, an offsite source for these compounds is indicated.

Analytical results of the groundwater samples collected from Monitoring Well MW-2 report that seven compounds were detected (Table 3). Of these, five exceeded their SALs. However, three of these compounds were also detected in the upgradient well (MW-4) groundwater samples and were not detected in soil samples collected onsite. Additionally, the other two compounds detected in the MW-2 groundwater sample were not detected in soil samples collected onsite. This again indicates an offsite source for these compounds.

5.0 CONCLUSIONS

Eight soil boreholes were drilled onsite to depths ranging from 10 to 46 feet bgs. Five of these were drilled during the initial subsurface soil investigation and the remaining three were drilled during the following groundwater investigation. Groundwater monitoring wells were installed in four of these boreholes.

Soil/groundwater samples were collected from each borehole/well and subjected to laboratory analysis using one or more of the following EPA Methods as appropriate: 8240, 418.1, and 624.

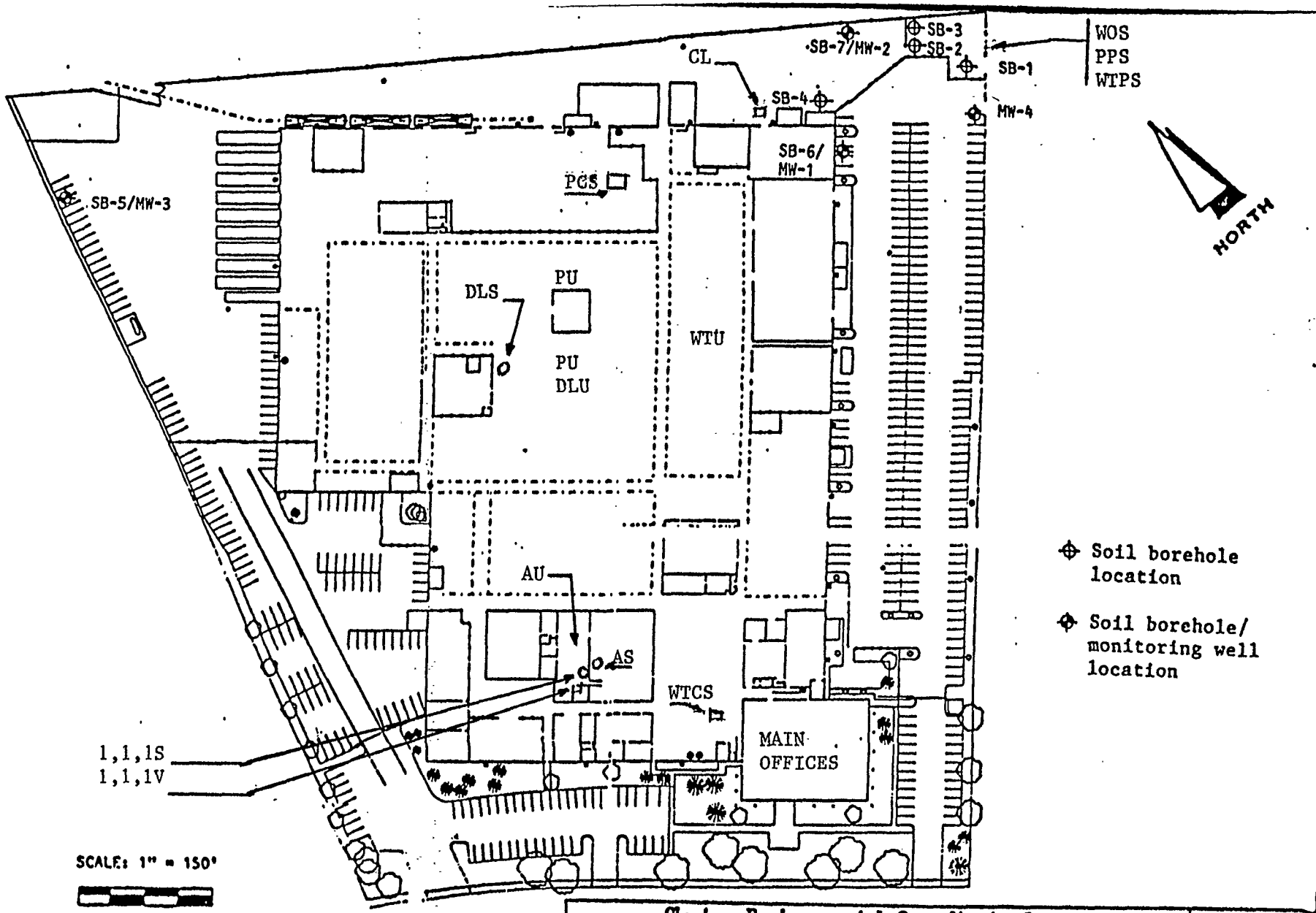
Groundwater depth in the wells varied from 24.11 to 26.32 feet bgs from top of casing, across the site. Based on surveyed wellhead elevations and measured depths to water, groundwater flow direction was calculated to be to the west-northwest. Groundwater contour elevations across the site range from 323 to 327 feet above mean sea level.

Laboratory analyses of soil samples collected in the boreholes drilled for monitoring well installation showed relatively minor concentrations of a few purgeable organic compounds including carbon disulfide, methylene chloride and acetone.

Laboratory analyses of groundwater samples collected from the downgradient monitoring wells (MW-1, MW-2, and MW-3) report some compounds at concentrations above their respective SALs. However, the majority of these compounds are also present in samples collected from Monitoring Well MW-4, (the upgradient monitoring well). Additionally, no compounds detected in the monitoring wells were detected in the soil samples collected onsite. These data indicate an offsite source (or sources) for these compounds.

REFERENCE [4]

SITE AUDIT - CHEMICAL USE
STOODY COMPANY
OCTOBER 1989



Clayton Environmental Consultants

Clayton Environmental Consultants, Inc.	Figure
APPROXIMATE LOCATIONS OF SOIL BOREHOLES AND MONITORING WELLS	2
Stoody Company Project No. 21171.00	6/89

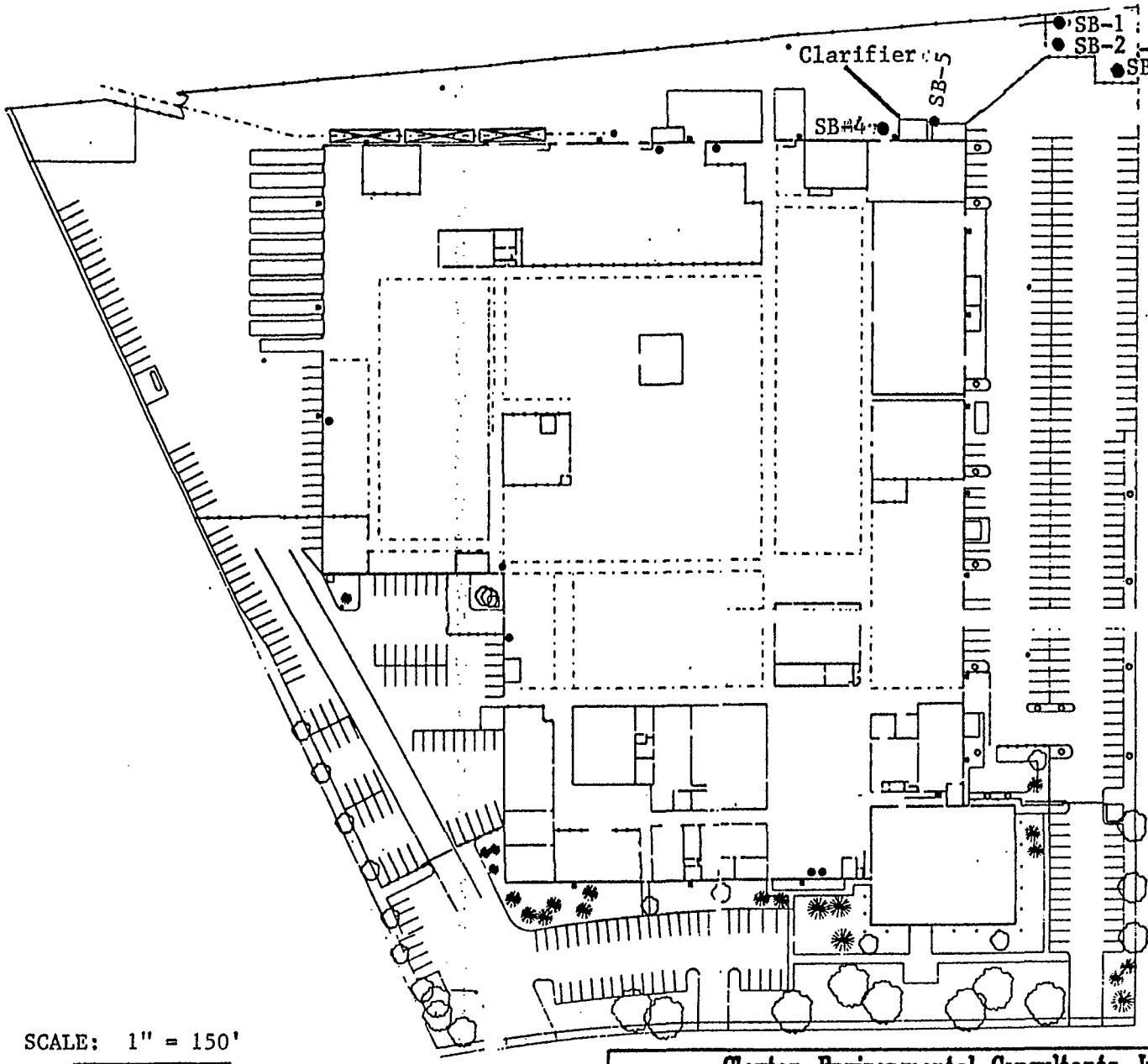
LEGEND FOR PLOT PLAN LOCATIONS

WOS	WASTE OIL STORAGE
PPS	PEMS PAST STORAGE
PCS	PEMS CURRENT STORAGE
PU	PEMS USE
WTPS	WASH THINNER PAST STORAGE
WTCS	WASH THINNER CURRENT STORAGE
WTU	WASH THINNER USE
AS	ACETONE STORAGE
AU	ACETONE USE
DLS	DL-500 STORAGE
DLU	DL-500 USE
1,1,1 S	1,1,1 TRICHLOROETHANE STORAGE
1,1,1 V	1,1,1 TRICHLOROETHANE VAPOR DEGREASER
CL	CLARIFIER LOCATION

HK/stl
chemsite.rpt
10.89

REFERENCE [5]

SUBSURFACE SOIL INVESTIGATION AND INDUSTRIAL CLARIFIER REPORT
CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
28 FEBRUARY 1990



Clayton Environmental Consultants, Inc.	Figure
STOODY COMPANY FACILITY MAP Showing Areas of Concern and Borehole Locations	2
STOODY COMPANY CLAYTON PROJECT NO. 27454.00	2/90

TABLE 1
SUMMARY OF ANALYTICAL ANALYSES FOR SOIL BOREHOLES

Volatile Organic Compounds	SB-1 A 1 ft	SB-1 B 5 ft	SB-1 C 10 ft	SB-2 A 1 ft	SB-2 B 5 ft	SB-2 C 10 ft	SB-3 A 1 ft	SB-3 B 5 ft	SB-3 C 10 ft
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trans-1,2-dichloroethene	700	36	14	ND	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cis-1,3-dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	10	5	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	2
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trans-1,3-dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-chloroethylvinylether	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ND	82	53	160	22	8	35	19	10
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	4
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,3-dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND
1.2-dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND
Freon 113	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Xylenes	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl acetate	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND

ND - not detected at various detection limits as listed in the laboratory reports (Appendix D)
ug/kg - micrograms per kilogram
ppb - parts per billion, generally equivalent to ug/kg

TABLE 2
SUMMARY OF ANALYTICAL RESULTS FROM SOIL SAMPLES TAKEN NEAR THE INDUSTRIAL CLARIFIER AND ITS LIQUID AND SLUDGE CONSTITUENTS

Volatile Organic Compounds	SB-5 A 6.5 ft (ug/kg)	SB-5 B 10.5 ft (ug/kg)	SB-4 A 6.5 ft (ug/kg)	SB-4 B 10.5 ft (ug/kg)	EPA Method 8240 Clarifier Liquid (mg/kg)	EPA Method 8240 Clarifier Sludge (mg/kg)
Chloromethane	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND
Methylene chloride	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	ND	ND	ND	ND	ND	ND
1,1-dichloroethene	ND	ND	ND	ND	ND	ND
1,1-dichloroethane	ND	ND	ND	ND	ND	ND
Trans-1,2-dichloroethene	ND	7	ND	ND	ND	0.8
Chloroform	ND	ND	ND	ND	ND	ND
1,2-dichloroethane	ND	ND	ND	ND	ND	ND
1,1,1-trichloroethane	ND	ND	ND	ND	ND	ND
Carbon tetrachloride	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND
1,2-dichloropropane	ND	ND	ND	ND	ND	ND
Cis-1,3-dichloropropene	ND	ND	ND	ND	ND	ND
Trichloroethene	ND	6	ND	3	ND	ND
Benzene	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND
1,1,2-trichloroethane	ND	ND	ND	ND	ND	ND
Trans-1,3-dichloropropene	ND	ND	ND	ND	ND	ND
2-chloroethylvinylether	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND
1,1,2,2-tetrachloroethane	ND	ND	ND	ND	ND	ND
Tetrachloroethene	6	10	6	10	ND	ND
Toluene	60	600	4	85	640	5
Chlorobenzene	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	8	ND	4	ND	ND
1,3-dichlorobenzene	ND	ND	ND	ND	ND	ND
1.2-dichlorobenzene	ND	ND	ND	ND	ND	ND
1,4-dichlorobenzene	ND	ND	ND	ND	ND	ND
Freon 113	ND	ND	ND	ND	ND	ND
Total Xylenes	13	75	ND	35	ND	ND
Acetone	100	1,100	ND	200	ND	ND
2-Butanone	80	100	ND	ND	ND	ND
4-Methyl-2-pentanone	ND	ND	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND	ND	ND
Vinyl acetate	ND	ND	ND	ND	ND	ND
Carbon disulfide	ND	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND

TABLE 2 (Continued)
SUMMARY OF ANALYTICAL RESULTS FROM SOIL SAMPLES TAKEN NEAR THE INDUSTRIAL CLARIFIER AND ITS LIQUID AND SLUDGE CONSTITUENTS

Extractable Petroleum Hydrocarbons (mg/kg)	SB-5 A 6.5 ft	SB-5 B 10.5 ft	SB-4 A 6.5 ft	SB-4 B 10.5 ft	Clarifier Liquid	Clarifier Sludge
Diesel	ND	ND	ND	ND	---	1,000
Waste Oil	1,000	5,000	150	3,700	---	8,000

ND - none detected at detection limits listed in laboratory reports
ug/kg - micrograms per kilograms
ppb - parts per billion, generally equivalent to ug/kg
mg/kg - milligrams per kilograms

TABLE 3

SUMMARY OF INORGANIC ANALYSES FROM THE INDUSTRIAL CLARIFIER SLUDGE

Analyte	Sample Concentration mg/kg	Hazardous Waste STLC* mg/L	Criteria TTLC** mg/kg	Limit of Detection mg/kg
Antimony	<1	15.0	500	1
Arsenic	3	5.0	500	1
Barium	57	100.0	10,000	1
Beryllium	<0.1	0.75	75	0.1
Cadmium	0.3	1.0	100	0.1
Chromium VI	NA	5.0	500	1
Chromium+	200	560.0	2,500	1
Cobalt	210	80.0	8,000	1
Copper	150	25.0	2,500	1
Lead	<1	5.0	1,000	1
Mercury+	0.3	0.2	20	0.1
Molybdenum	96	350.0	3,500	1
Nickel	210	20.0	2,000	1
Selenium	<1	1.0	100	1
Silver	3.0	5.0	500	0.5
Thallium	<1	7.0	700	1
Vanadium	30	24.0	2,400	1
Zinc	79	250.0	5,000	1
pH[1]	7.6			
Ignitability[2]	>200°F			

* STLC = Soluble Threshold Limit concentration, 22CAC66693 (CA Title 22).
** TTLC = Total Threshold Limit Concentration, 22CAC66693 (CA Title 22), reported on wet weight basis.
[1] Corrosivity; pH - 2 ≤ pH ≥ 12.5 (CA Title 22)
[2] Ignitability; < 140° F (CA Title 22)
mg/kg - milligrams per kilograms, generally equivalent to parts per million (ppm)
mg/l - milligrams per liter, generally equivalent to parts per million

REFERENCE [6]

ADDITIONAL SUBSURFACE SUMP AND CLARIFIER INVESTIGATION
CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
16 APRIL 1991

coordinates, is provided in Appendix F. Table 1 (Appendix A) presents the well coordinates and other pertinent well elevation/depth information.

3.0 LABORATORY ANALYTICAL RESULTS

Laboratory analyses were provided by Clayton's state-certified laboratory in Pleasanton, California. Laboratory analytical reports, along with the chain-of-custody forms are provided in Appendix G. Laboratory analytical results for soil samples are summarized in Table 2 (Appendix A).

3.1 SOIL SAMPLE ANALYTICAL RESULTS

A total of 34 soil samples were collected for laboratory analysis during the vadose zone Investigation. Soil samples from each borehole drilled were collected at 1, 5, 10, 15, 20, 25 and 30 feet below the ground surface. However, in borehole BH-10, the 1-foot sample was not collected due to a drilling error. Soil samples were analyzed by the following EPA Methods:

- EPA Method 8240 for volatile organic compounds (VOCs)
- EPA Method 418.1 for total recoverable petroleum hydrocarbons (TRPH)
- Various EPA Methods for chromium, nickel, and copper

Based on the laboratory analysis of the soil samples, Clayton's findings are as follows:

- 1,2-Dichloroethene (1,2-DCE) was detected in soil samples from Boreholes BH-10. BH-12 and BH-13. The contaminant concentration ranged from 0.005 milligrams per kilogram (mg/kg) to 0.050 mg/kg in the three boreholes. The highest concentration of 0.050 mg/kg was reported in BH-13 at the 1-foot depth. The lowest concentration was 0.005 mg/kg in BH-12 at the 5-foot depth.

- Trichloroethene (TCE) was detected above the level of detection in soil samples from Boreholes BH-12 and BH-13. TCE was reported at 0.011 mg/kg and 0.062 mg/kg in the boreholes at a depth of 1 foot. These two detections were the only reported concentrations of TCE in the samples collected.

- Tetrachloroethene (PCE) was detected in boreholes MW-5, MW-10, MW-12, and MW-13. The concentrations of PCE ranged from 0.004 mg/kg in both MW-5 and BH-10 to 0.170 mg/kg in the 1-foot sample from BH-13. The limit of detection for PCE is 0.004 mg/kg.

- Toluene was detected in each borehole drilled during the investigation. The detections ranged from 0.002 mg/kg in the 5-foot samples from BH-11 to 8.8 mg/kg in the 15-foot sample from BH-10. A majority of the samples collected reported concentrations of toluene above the laboratory limit of detection of 0.002 mg/kg.

- Ethylbenzene was reported in only one soil sample collected. Ethylbenzene was reported in the 15-foot sample from BH-10 at a concentration 0.020 mg/kg. The laboratory limit of detection for ethylbenzene is 0.003 mg/kg.

- Acetone was detected in boreholes BH-10, BH-12, BH-13. Each borehole reported one detection apiece. BH-10 reported acetone in the 20-foot sample at a concentration of 0.20 mg/kg. BH-12 had a detection in the 1-foot sample reporting a concentration of 0.060 mg/kg. Acetone was also found in BH-13 at the 5-foot level at a concentration of 0.03 mg/kg. The laboratory limit of detection for acetone is 0.02 mg/kg.

- Total xylenes were detected in soil samples from Borehole BH-10; the concentrations ranged from 0.07 mg/kg in the 10-foot sample to 0.17 mg/kg in the 15-foot sample. The limit of detection for total xylenes is 0.003 mg/kg.

- TRPHs were detected in each of the boreholes drilled during this investigation, however only one borehole reported levels above 100.0 mg/kg. Borehole BH-10 reported TRPH concentrations as high as 21,000 mg/kg to a low of 230 mg/kg. The limit of detection for TRPH is 10 mg/kg.

- Chromium (VI) was reported in soil samples from MW-5 and BH-11 (clarifier), and BH-13 (sump) from total threshold limit concentration (TTLC) analysis. Chromium (VI) was not detected in any of the samples from any of the boreholes using STLC analysis.

- Nickel and copper were detected in a soil sample from each borehole in both the clarifier and sump areas using the results of TTLC analyses.

3.2 GROUNDWATER ANALYTICAL RESULTS

Groundwater samples were collected from monitoring well MW-5. The groundwater sample was analyzed by EPA Method 524.2 for volatile organic compounds in drinking water, EPA Method 418.1 for TRPH, EPA Method 150.1 for pH, and EPA Method 180.1 for turbidity.

The results of the laboratory analyses of groundwater samples are summarized in the following table.

MW No.	CLF	1,1-DCE	Cis 1,2-DCE	Total 1.2-DCE	PCE	1,1,1-TCE	TCE	TFCM
MW-5	0.7	16	2.1	2.1	100	1.8	34	2.2
DHS DWAL or MCL for Corresponding Compounds	*100	*6.0	6.0	NA	5.0	*200	*5.0	150
LOD for Corresponding Compounds	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Trip Blank	ND	ND	ND	ND	ND/0.7	ND	ND	ND
Method Blank	ND	ND	ND	ND	ND	ND	ND	ND

ND: Not detected at or above limit of detection
µg/L: Micrograms per liter (generally equivalent to parts per billion)
NA: Information not available
DHS: State of California Department of Health Services
DWAL: Drinking water action level
*MCL: Maximum contaminant level
LOD: Limit of detection
CLF: Chloroform
DCE: Dichloroethene
PCE: Tetrachloroethene
TCE: Trichloroethane
TFCM: Trichlorofluoromethane

Detectable levels of chemical constituents reported in groundwater from monitoring well MW-5 are discussed below:

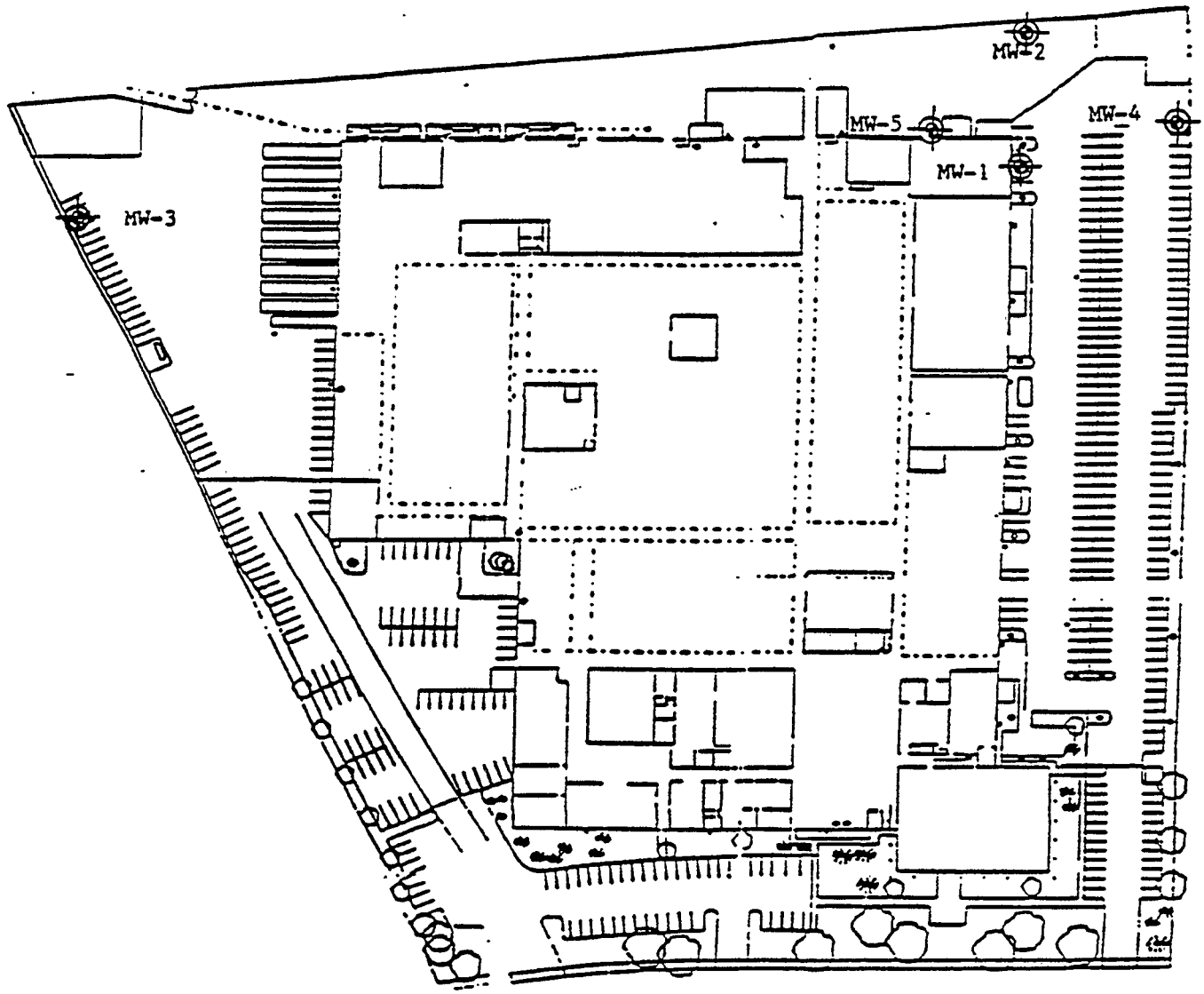
EPA Method 524.2 for volatile organic compounds reported eight organic compounds detected at or above the limits of detection. Three of the eight compounds reported exceeded either the EPA MCL or the State of California DHS DWAL. These three were 1,1-dichloroethene, tetrachloroethene, and trichloroethane.

Laboratory analysis of the water sample from MW-5 reported no detection of TRPH at or above 1.0 mg/L (the limit of detection). EPA Method 150.0 for pH reported a pH value of 7.91. EPA Method 180.1 for turbidity reported a value of 1.5 nephelometric turbidity units.

3.3 QUALITY ASSURANCE AND QUALITY CONTROL

For quality assurance and quality control (QA/AC) a trip blank and field blank were submitted for analysis by EPA Method 524.2. Analytical results reported low concentrations of methylene chloride and tetrachloroethene in the trip blank, and low concentrations of dibromochloromethane, methylene chloride, and tetrachloroethene in the field blank.

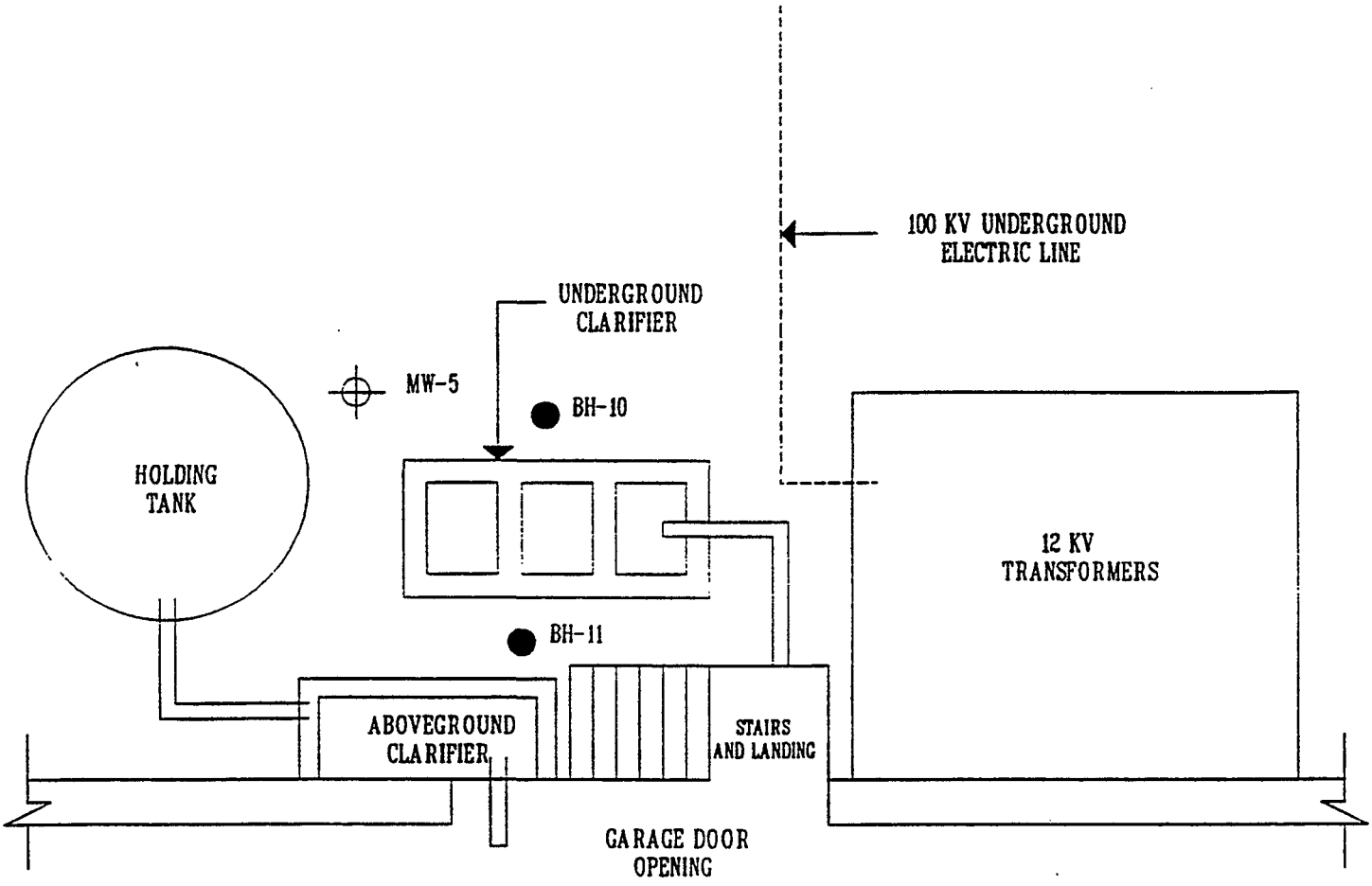
Methylene chloride is a common laboratory reagent. Dibromochloromethane is a compound found in treated potable water. Tetrachloroethene was found in relatively high



SCALE: 1 INCH = 150 FEET

NORTH

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.	FIGURE
SITE PLOT PLAN	2
STOODY COMPANY INDUSTRY, CALIFORNIA — PROJECT NO. 33508.00	3/91



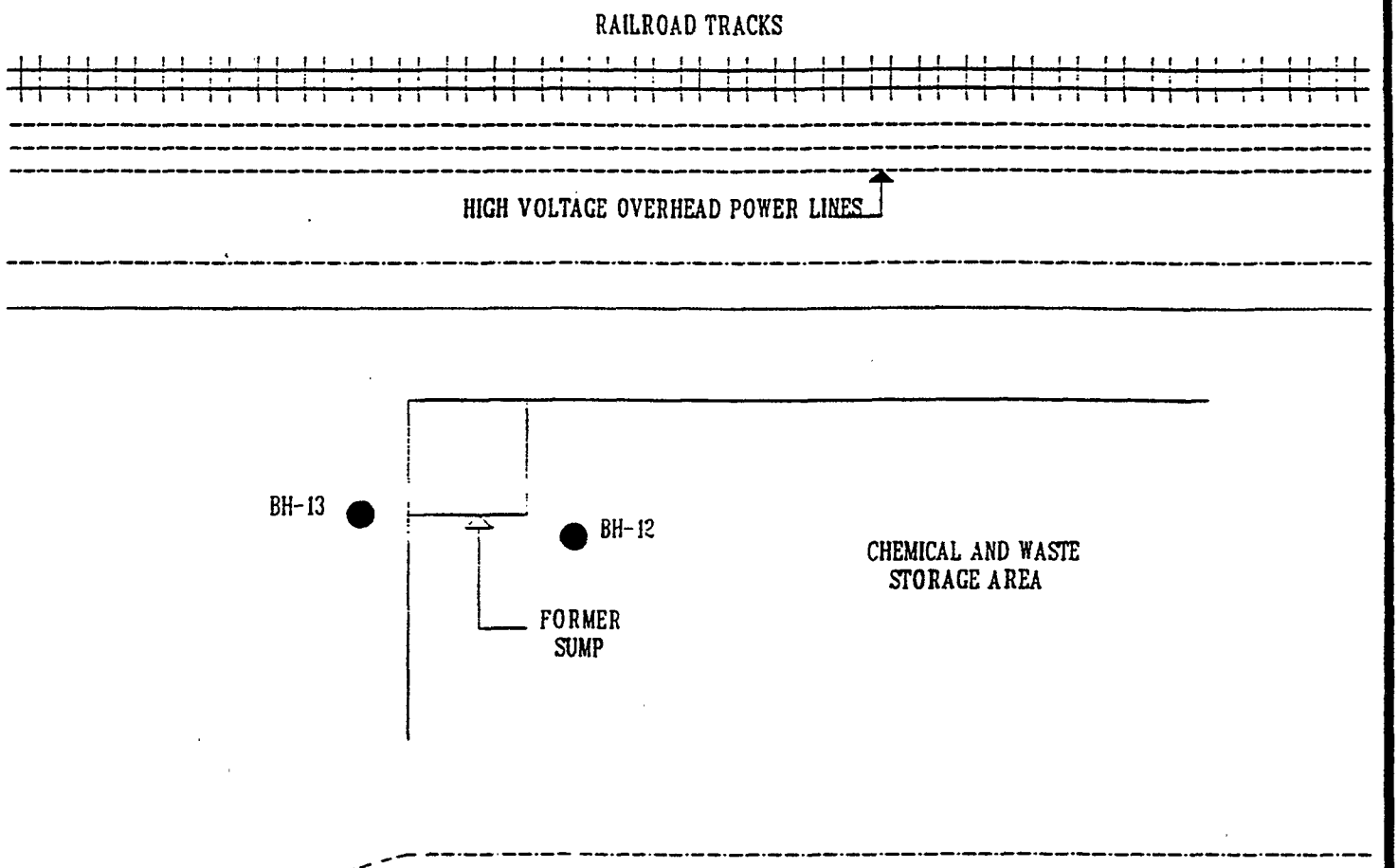
APPROXIMATE MONITORING WELL LOCATION

APPROXIMATE BOREHOLE LOCATION

DRAWING NOT TO SCALE

NORTH

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.	FIGURE
BOREHOLE LOCATION MAP	3
STOODY COMPANY INDUSTRY, CALIFORNIA	PROJECT NO. 33508.00 3/91



DRAWING NOT TO SCALE

NORTH

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.	FIGURE
BOREHOLE LOCATION MAP	4
STOODY COMPANY INDUSTRY, CALIFORNIA	PROJECT NO. 33508.00
	3/91

Table 2
Summary of Laboratory Analytical Results
for Soil Samples, EPA Methods 8240 and 418.1
at
Stoody Company
Industry, California
Clayton Project No. 33508.00
Sampling Date: February 1, 1990

Borehole No.	Sample	Depth (feet)	EPA Method 5030/82400 [Low Level (mg/kg)]							EPA Method 418.1	STLC (mg/kg)			TTLC (mg/kg)		
			Total 1,2 DCE	TCE	PCE	Toluene	Ethyl-benzene	Acetone	Total Xylenes	TRPH (mg/kg)	Cr^{+3}	Cu	Ni	Cr^{+6}	Cu	Ni
MW-5	A	1	ND	ND	ND	0.010	ND	ND	ND	30	<0.01	0.3	<0.1	0.1	45	31
	B	5	ND	ND	ND	0.008	ND	ND	ND	30						
	C	10	ND	ND	ND	0.005	ND	ND	ND	30						
	D	15	ND	ND	ND	ND	ND	ND	ND	20						
	E	20	ND	ND	ND	0.013	ND	ND	ND	20						
	F	25	ND	ND	0.004	0.003	ND	ND	ND	20						
	G	30	ND	ND	ND	0.012	ND	ND	ND	20						
BH-11	A	1	ND	ND	ND	0.028	ND	ND	ND	20	<0.01	0.2	0.6	0.4	24	17
	B	5	ND	ND	ND	0.002	ND	ND	ND	20						
	C	10	ND	ND	ND	ND	ND	ND	ND	20						
	D	15	ND	ND	ND	ND	ND	ND	ND	90						
	E	20	ND	ND	ND	ND	ND	ND	ND	20						
	F	25	ND	ND	ND	0.004	ND	ND	ND	20						
	G	30	ND	ND	ND	ND	ND	ND	ND	20						
Method Blank			ND	ND	ND	ND	ND	ND	ND	<10						

µg/kg: Micrograms per kilogram, generally equivalent to parts per billion
mg/kg: Milligrams per kilogram, generally equivalent to parts per million
ND: Not detected at or above limit of detection -
Detection limits for EPA method 8240 range from 0.002 to 0.010 mg/kg
See laboratory analytical results in Appendix G for specific detection limits

Total 1,2-DCE: 1,2-dichloroethene (total)
TCE: Trichloroethene
PCE: Tetrachloroethene
STLC: Soluble threshold limit concentration
Cr^{+6}: Total chromium (VI)
Cu: Copper
Ni: Nickel

Table 2 (continued)
Summary of Laboratory Analytical Results
for Soil Samples, EPA Methods 8240 and 418.1
at
Stoody Company
Industry, California
Clayton Project No. 33508.00
Sampling Date: February 1, 1991

Borehole No.	Sample	Depth (feet)	EPA Method 5030/8240 [Low Level (mg/kg)]							EPA Method 418.1	STLC (mg/kg)			TTLC (mg/kg)		
			Total 1,2 DCE	TCE	PCE	Toluene	Ethyl-benzene	Acetone	Total Xylenes	TRPH (mg/kg)	Cr^{+6}	Cu	Ni	Cr^{+6}	Cu	Ni
BH-10	B	5	ND	ND	0.04	0.04	ND	ND	ND	16,000	<0.01	<0.1	0.31	<0.1	35	17
	C	10	ND	ND	ND	0.82	ND	ND	0.07	21,000						
	D	15	0.02	ND	0.04*	8.8	0.02	ND	0.17	14,000						
	E	20	ND	ND	ND	0.02	ND	0.20	ND	230						
	F	25	ND	ND	ND	ND	ND	ND	ND	<10						
	G	30	ND	ND	ND	ND	ND	ND	ND	<10						
BH-12	A	1	0.41	0.062	0.014	0.026	ND	0.06	ND	<10	<0.01	0.3	0.6	<0.1	28	25
	B	5	0.005	ND	0.014	0.005	ND	ND	ND	<10						
	C	10	ND	ND	ND	0.005	ND	ND	ND	<10						
	D	15	ND	ND	ND	ND	ND	ND	ND	20						
	E	20	0.007	ND	0.010	0.002	ND	ND	ND	10						
	F	25	0.008	ND	0.004	ND	ND	ND	ND	<10						
	G	30	ND		0.008	0.008	ND	ND	ND	<10						

µg/kg: Micrograms per kilogram, generally equivalent to parts per billion
mg/kg: Milligrams per kilogram, generally equivalent to parts per million
ND: Not detected at or above limit of detection -
Detection limits for EPA method 8240 range from 0.002 to 0.010 mg/kg
See laboratory analytical results in Appendix G for specific detection limits

Total 1,2-DCE: 1,2-dichloroethene (total)
TCE: Trichloroethene
PCE: Tetrachloroethene
STLC: Soluble threshold limit concentration
Cr^{+6}: Total chromium (VI)
Cu: Copper
Ni: Nickel

Table 2 (continued)
Summary of Laboratory Analytical Results
for Soil Samples, EPA Methods 8240 and 418.1
at
Stoody Company
Industry, California
Clayton Project No. 33508.00
Sampling Date: February 1, 1991

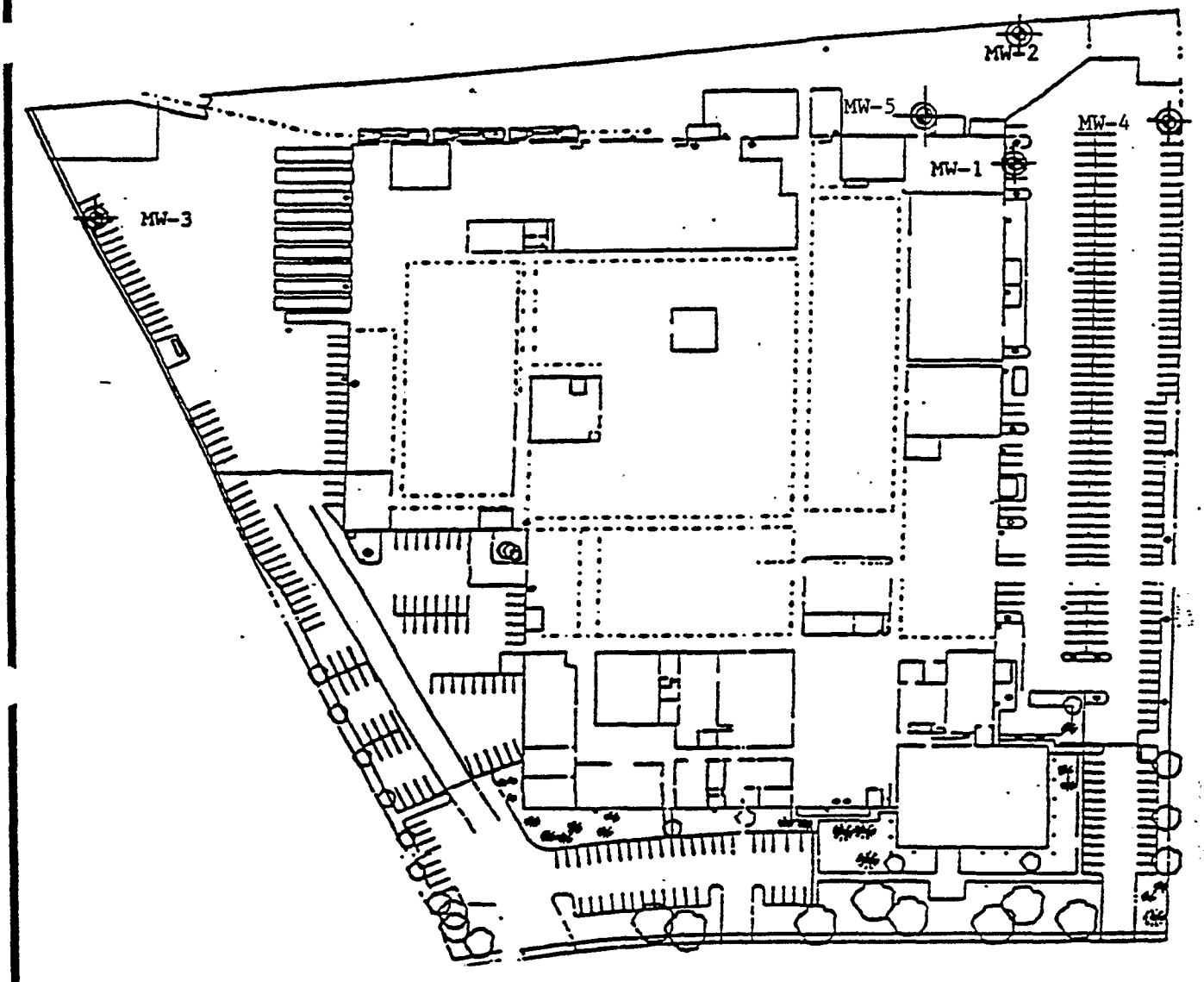
Borehole No.	Sample	Depth (feet)	EPA Method 5030/8240 [Low Level (mg/kg)]							EPA Method 418.1	STLC (mg/kg)			TTLC (mg/kg)		
			Total 1,2 DCE	TCE	PCE	Toluene	Ethyl-benzene	Acetone	Total Xylenes	TRPH (mg/kg)	Cr^{+6}	Cu	Ni	Cr^{+6}	Cu	Ni
BH-13	A	1	0.05	0.011	0.17	0.019	ND	ND	ND	< 10	<0.01	0.4	0.7	0.1	20	16
	B	5	0.009	ND	0.008	ND	ND	0.03	ND	< 10						
	C	10	ND	ND	ND	ND	ND	ND	ND	< 10						
	D	15	ND	ND	ND	0.008	ND	ND	ND	< 10						
	E	20	ND	ND	ND	ND	ND	ND	ND	< 10						
	F	25	ND	ND	ND	ND	ND	ND	ND	< 10						
	G	30	0.009	ND	0.017	0.010	ND	ND	ND	10						
Method Blanks	NA	ND	ND	ND	ND	ND	ND	ND	ND	< 10						
	NA	NA	ND	ND	ND	ND	ND	ND	ND	< 10						

µg/kg: Micrograms per kilogram, generally equivalent to parts per billion
mg/kg: Milligrams per kilogram, generally equivalent to parts per million
ND: Not detected at or above limit of detection -
Detection limits for EPA method 8240 range from 0.002 to 0.010 mg/kg
See laboratory analytical results in Appendix G for specific detection limits

Total 1,2-DCE: 1,2-dichloroethene (total)
TCE: Trichloroethene
PCE: Tetrachloroethene
STLC: Soluble threshold limit concentration
Cr^{+6}: Total chromium (VI)
Cu: Copper
Ni: Nickel

REFERENCE [7]

FIRST QUARTERLY GROUNDWATER MONITORING REPORT
CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
8 MARCH 1991



MONITORING WELL LOCATION

SCALE: 1 INCH = 150 FEET

NORTH

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.	FIGURE
APPROXIMATE LOCATIONS OF MONITORING WELLS	1
STOODY COMPANY INDUSTRY, CALIFORNIA — PROJECT NO. 33043.00	3/91

Table 1
Groundwater Monitoring Well Data
at
Stoody Company
City of Industry, California
Clayton Project No. 33043.00
Sampling Dates: December 27, 1990 and February 13, 1991

	Elevations (feet)				
Monitoring Well	MW-1	MW-2	MW-3	MW-4	MW-5
California Coordinates Northerly	4 115 352.91	4 115 446.16	4 115 618.47	4 115 317.93	4 115 437.54
California Coordinates Easterly	4 304 877.74	4 305 930.76	4 304 433.56	4 305 006.96	4 304 813.76
Elevation at top of well casing (MSL)	352.18	351.12	349.34	353.55	351.64
Total depth of well after development	44.90	44.95	44.85	48.68	49.86
Date of measurement	3/6/91	3/6/91	3/6/91	3/6/91	3/6/91
Depth to water from top of casing	31.12	30.04	32.17	31.65	30.62
Elevation of water (MSL)	321.06	321.08	317.17	321.90	321.02

E33043.TBL

Clayton
ENVIRONMENTAL
CONSULTANTS

Table 2
Summary Table of Results for EPA Method 524.2 (Concentrations in µg/L)
for Volatile Organic Compounds
at
Stoody Company
City of Industry, California
Clayton Project No. 33043.00
Sampling Dates: December 27, 1990 and February 13, 1991

Monitoring Well No.	Carbon tetra-chloride	Chloro-form	1,2-Dichloro-ethane	1,1-Dichloro-ethene	Cis 1,2-Dichloro-ethene	1,2-Dichloro-ethene (total)	Methylene Chloride	Tetra-chloro-ethene	1,1,1-Trichloro-ethane	Trichloro-ethene	Trichloro-flouro Methane
MW-1	1.0	0.8	ND	18	1.5	1.5	2.6	130	1.9	50	2.6
MW-2	0.8	0.7	ND	14	1.5	1.5	4.5	140	2.5	35	1.8
MW-3	0.8	0.9	0.7	25	ND	ND	3.6	55	5.1	65	ND
MW-4	0.6	0.6	ND	11	1.9	1.9	4.0	100	1.4	32	1.7
MW-5	ND	0.7	ND	16	2.1	2.1	ND	100	1.8	34	2.2
DHS DWAL or MCL for Corresp. Compounds	*0.5	*100	*0.5	*6.0	6.0	NA	40	5.0	*200	*5.0	150
LOD for Corresp. Compounds	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Trip Blank	ND	ND	ND	ND	ND	ND	0.9/1.2	ND/0.7	ND	ND	ND
Method Blank	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

ND: Not detected at or above limit of detection
µg/L: Micrograms per liter (generally equivalent to parts per billion)
NA: Information not available
DHS: State of California Department of Health Services
DWAL: Drinking water action level
*MCL: Maximum contaminant level
LOD: Limit of detection

E33043.TBL

Table 3
Summary Table of Results for EPA Method 180.1
for Turbidity
at
Stoody Company
City of Industry, California
Clayton Project No. 33043.00
Sampling Dates: December 27, 1990 and February 13, 1991

Sample Identification	Turbidity (N.T.U.)*
MW-1	6.4
MW-2	4.5
MW-3	9.6
MW-4	7.1
MW-5	1.5
Limit of detection	0.1

<: Less than the indicated limit of detection (LOD)
*NTU: Nephelometric Turbidity Units

Table 4
Summary Table of Results for EPA Method 418.1 for
Total Petroleum Hydrocarbons (Concentrations in mg/L)
for Monitoring Well MW-5
at
Stoody Company
City of Industry, California
Clayton Project No. 33043.00
Sampling Date: February 13, 1991

Sample Identification Number	Total Recoverable Petroleum Hydrocarbons
MW-5A	<1.0
MW-5B	<1.0

Limit of detection: 1.0
mg/L: Milligrams per liter (generally equivalent to parts per million)

Table 5
Summary Table of Results for Average Pre-Sample pH Values
at
Stoody Company
City of Industry, California
Clayton Project No. 33043.00
Sampling Dates: December 27, 1990 and February 13, 1991

MONITORING WELL NUMBER	pH
MW-1	7.81
MW-2	7.87
MW-3	7.76
MW-4	7.89
MW-5	7.91

E33043.TBL

REFERENCE [8]

SOIL REMEDIATION FOR CLARIFIER AND SUMP
CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
15 MAY 1992

The excavation and soil samples were described by a Clayton Geologist under the supervision of a California Registered Geologist using the Unified Soil Classification System (USCS). Soil sampling and drilling techniques generally follow Department of Health Services, California Site Mitigation Decision Tree guidelines.

Drill cuttings were placed with excavated soil from the clarifier for disposal by Stoody. The boreholes were backfilled to grade with a cement-bentonite grout mixture and covered with asphalt patch.

2.2 FIELD WORK

Field work for the remediation consisted of:

- Removing and excavating soil from the former sump and clarifier areas
- Collecting soil samples from the excavations bottom and sidewalls and from five shallow boreholes for laboratory analyses
- Stockpiling excavated soils for disposal by Stoody Company
- Backfilling and compacting the excavation (not yet completed)

2.2.1 Clarifier

On November 4, through November 6, 1991, Clayton excavated around and removed the industrial waste water clarifier from the ground. The concrete clarifier was broken up in the process of removal and hauled to a solid waste disposal facility. The soil under and around the clarifier was found to be contaminated. The soil under the clarifier was excavated with a backhoe to a depth of 17 feet. Approximately 120 cubic yards of soil was stockpiled near the excavation, awaiting disposal to a hazardous waste facility. During the removal of the clarifier, a sanitary sewer line was unavoidably damaged to allow for removal of the main body of the clarifier. A temporary sewer line was installed after the initial excavation was completed. The excavation created was rectangular in shape, and was from 15 feet to 17.5 feet in depth and approximately 21 feet by 16 feet at its maximum width and length (Figure 3, Appendix A).

On November 4, 1991, shortly after the excavating began, a sewer pipe was broken and the excavation procedures were delayed on the clarifier. At this time excavation work moved over to the sump area. By the end of the second day the pipe was repaired and the excavation was approximately 16 feet long, 20 feet wide, and 17 feet deep. Eight soil samples, CL-1-B through CL-8-SW, were collected from the excavation sidewalls (CL-3-S through CL-8-SW) and bottom (CL-1-B and CL-2-B), as shown in Figure 3, and preserved for laboratory analyses. The soil samples collected from the sidewalls were collected from depths of 9 to 12 feet (Figure 3). In addition, a soil sample was collected from the newly created spoils pile. The sample collected

from the spoils pile was analyzed for profiling purposes to evaluate disposal methods for the soil.

The northwestern boundary of the excavation was stopped at groundwater monitoring well MW-5. During the last site assessment, high concentrations of TPH were identified by the laboratory in the soil sample of MW-5 collected at depths of 5 and 10 feet. A 12-Kilovolt electrical line stopped additional excavation to the south and a high pressure fire suppression line stopped excavation further to the north.

On November 12, 1991, the soil samples submitted for analyses from the clarifier excavation indicated high levels of total recoverable petroleum hydrocarbons (TRPH) and acetone existed in the sidewalls and bottom of the excavation. Based on the remediation action levels cited by the CRWQCB, TRPH levels can not exceed 10.0 parts per million (ppm). The concentration of TRPH averaged 13,000 ppm for the eight samples collected.

2.2.2 Sump

On November 4, and November 5, 1991, Clayton excavated around and removed the waste water sump in the former chemical storage area. The concrete sump was broken up in the process of removal and hauled to B.K.K. solid waste disposal facility. The soil under and around the sump was found to be contaminated. The soil under the sump was excavated with a backhoe to a depth of 11.0 feet. The removed soil was stock-piled near the excavation, awaiting disposal to a hazardous waste facility. Approximately 80 additional cubic yards of soil is now stockpiled near that excavation, awaiting disposal to a hazardous waste facility. The excavation created was irregular in shape but was from 10 feet to 11 feet in depth and approximately 12 feet by 16 feet at its maximum width and length (Figure 4, Appendix A).

Five soil samples, SP-1-B through SP-5-E, were collected from the excavation sidewalls (SP-2-S through SP-5-E) and bottom (SP-1-B), as shown in Figure 4, and preserved for laboratory analyses. The soil samples collected from the sidewalls were collected from depths of 5 to 8 feet (Figure 4). In addition, a soil sample was collected from the newly created spoils pile. The sample collected from the spoils pile was laboratory analyzed for profiling purposes to evaluate disposal methods for the soil.

On November 12, 1991, the soil samples submitted for analysis from the sump excavation indicated that slightly elevated levels of total recoverable petroleum hydrocarbons (TRPH), tetrachloroethene, and acetone existed in the sidewalls and bottom of the excavation. Based on the remediation action levels cited by the CRWQCB, contaminant levels can not exceed specified clean up levels. These results indicated that unacceptably high levels of contaminants still remained in the soil surrounding and below the excavation.

On December 3, 1991, Clayton excavated some additional soil from the existing sump excavation from areas of known soil contamination. The new excavation created was irregular in shape but was from 10 feet to 14 feet in depth and approximately 15 feet by 20 feet at its maximum width and length (Figure 4).

Three soil samples, SP-6-B through SP-9-E, were collected from the excavation side walls (SP-7-N, SP-9-E) and bottom (SP-6-B), as shown in Figure 4, and preserved for laboratory analyses. The soil samples collected from the sidewalls were collected from depths of 5 to 14 feet (Figure 4). SP-8-P is a soil pile sample collected for profiling the soil pile for disposal. Laboratory analysis of SP-8-P revealed a TRPH level of 5,600 ppm and detected concentrations of four VOC compounds. The laboratory results now indicate that no additional excavation is necessary. The laboratory results are summarized in Appendix A, Tables 1 and 2.

2.2.3 Shallow Soil Investigation

Clayton collected two soil samples (1-foot and 5-foot depths) from each of five soil boreholes (BH-14 through BH-18, except BH-14, where only a 1-foot sample was collected due to auger refusal), as requested by the CRWQCB during their August 5, 1991, inspection at the Stoody facility (Figure 4). The soil samples were analyzed for the presence of TRPH, VOCs, and selected metals following the same laboratory protocol as samples for the clarifier and sump areas. The laboratory analyses reported low level detections of Freon 113, tetrachloroethene, and TRPH however, these detections were below the established clean up levels agreed to in the RAP.

2.3 ANALYTICAL METHODS

Laboratory analyses of the soil samples from the excavation limits, spoils pile, and backfill (not completed) included:

- EPA Method 418.1 for TRPH
- EPA Method 8240 for VOCs
- Soluble threshold limit concentration (STLC) Metals
- Total threshold limit concentration (TTLC) Metals for copper, nickel, and chromium VI

All laboratory analyses were performed at Clayton's laboratory, (certified by the State of California, Department of Health Services)in Pleasanton, California.

Laboratory analyses were completed within seven days of sample collection and were conducted under standard chain-of-custody procedures. Laboratory analytical results

are summarized in Tables 1 and 2 in Appendix A. Laboratory reports, along with the chain-of custody forms, are provided in Appendix D.

3.0 REMEDIATION RESULTS

3.1 CLARIFIER

The soil samples submitted for analyses from the excavation indicated that high levels of TPH and acetone existed in the sidewalls and bottom of the excavation. Based on the remediation action levels cited by the CRWQCB, TRPH levels can not exceed 10.0 parts per million (ppm). The concentration of TRPH averaged 13,000 ppm for the eight samples collected. These results indicate that unacceptably high levels of TRPH still remain in the soil surrounding and below the excavation.

The extent of contaminated soil near the clarifier remains partially defined at this time; however, it appears to extend significantly further away from the excavation and deeper than the existing 17-foot depth. Estimates of the total volume of contaminated soil are difficult to make with the data collected, because of subsurface site constraints, but could range between an additional 300 to 500 cubic yards.

The excavation of additional contaminated soil is complicated by the underground utility lines that lie adjacent to the excavation. Three 12-Kilovolt electrical lines and a high pressure fire suppression line (water) will require rerouting before further excavation can be done. A further complication would be if the contamination has spread under the Stoody building.

3.2 SUMP

The soil samples submitted for analyses from the sump excavation indicated that low levels of TRPH, tetrachloroethene and acetone existed in the sidewalls and bottom of the excavation. Based on the remediation action levels cited by the CRWQCB, TRPH levels can not exceed 10.0 parts per million (ppm). Sample SP-4-N had a TRPH concentration of 180 ppm.

Based on these laboratory results a second episode of soil removal was undertaken on December 3, 1991. The three samples collected (SP-6-N, SP-7-NE, P-9-NW) reported levels of contaminants below the specified clean-up guidelines. The high-level concentrations of contaminants detected in the former sump area appear to have been satisfactorily remediated and a sufficient volume of contaminated soil has been removed.

3.3 SHALLOW SOIL INVESTIGATION

The soil samples submitted for analyses from the five boreholes (BH-14 through BH-18) indicated low level detections of TRPH, freon 113, tetrachloroethene, and metals. Based on the clean-up guidelines established in the RAP these detections were below the required clean up levels, with the exception of a TRPH concentration of 210 ppm in Sample BH-16-1 collected at 1 foot. It is likely that this detection is associated with TPH in the asphalt emulsion or cutter stock used in the asphalt pavement that covers the rear of the facility, because the 5-foot sample reported no detection of TRPH. The analytical results appear to support that no further action is required.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Based on our findings during the current remediation activities and our past investigations at the site, Clayton concludes the following:

A. Clarifier

- The analytical results indicate that unacceptably high levels of TRPH still exist in the soil surrounding and below the excavation. CRWQCB personnel will likely require further excavation to remove soil containing TRPH at levels in excess of 10.0 ppm. Clayton recommends the excavation of additional contaminated soil from the former clarifier area. This excavation work should be conducted under a Remedial Action Plan/Workplan similar to the current plan used for this phase of remediation.

  The complexity and proximity of the former clarifier and the existing underground utilities (high voltage electrical, and high pressure water) make rerouting the utilities exceeding time consuming and expensive. Clayton recommends that prior to any further soil excavation, a limited subsurface soil investigation be performed at the "foot" of building, next to the foundation of the building on the outside, and as near as possible to the southern wall of the building (near the clarifier) on the inside of the building. The data collected will allow us to further evaluate the extent of TRPH in the immediate area.

B. Sump

- Laboratory analyses of the soil samples taken from the excavation sidewalls and the excavation bottom indicate the absence of TPH and VOCs. It is Clayton's opinion that the soil remediation is satisfactory and that the soil remediation near the sump should be discontinued and the excavation backfilled as soon as possible.

C. Shallow Soil Investigation

- Laboratory analyses of the soil samples taken from the boreholes indicate the absence of TPH and VOCs. It is Clayton's opinion that no further work is warranted at this time.

5.0 LIMITATIONS

The information and opinions rendered in this report are exclusively for use by Stoody Company. Clayton Environmental Consultants, Inc. will not distribute this report without their consent except as may be required by law or court order. The information and opinions expressed in this report are given in response to our limited assignment and should be evaluated and implemented only in light of that assignment. We accept responsibility for the competent performance of our duties in executing the assignment and preparing this report in accordance with the normal standards of our profession but disclaim any responsibility for consequential damages.

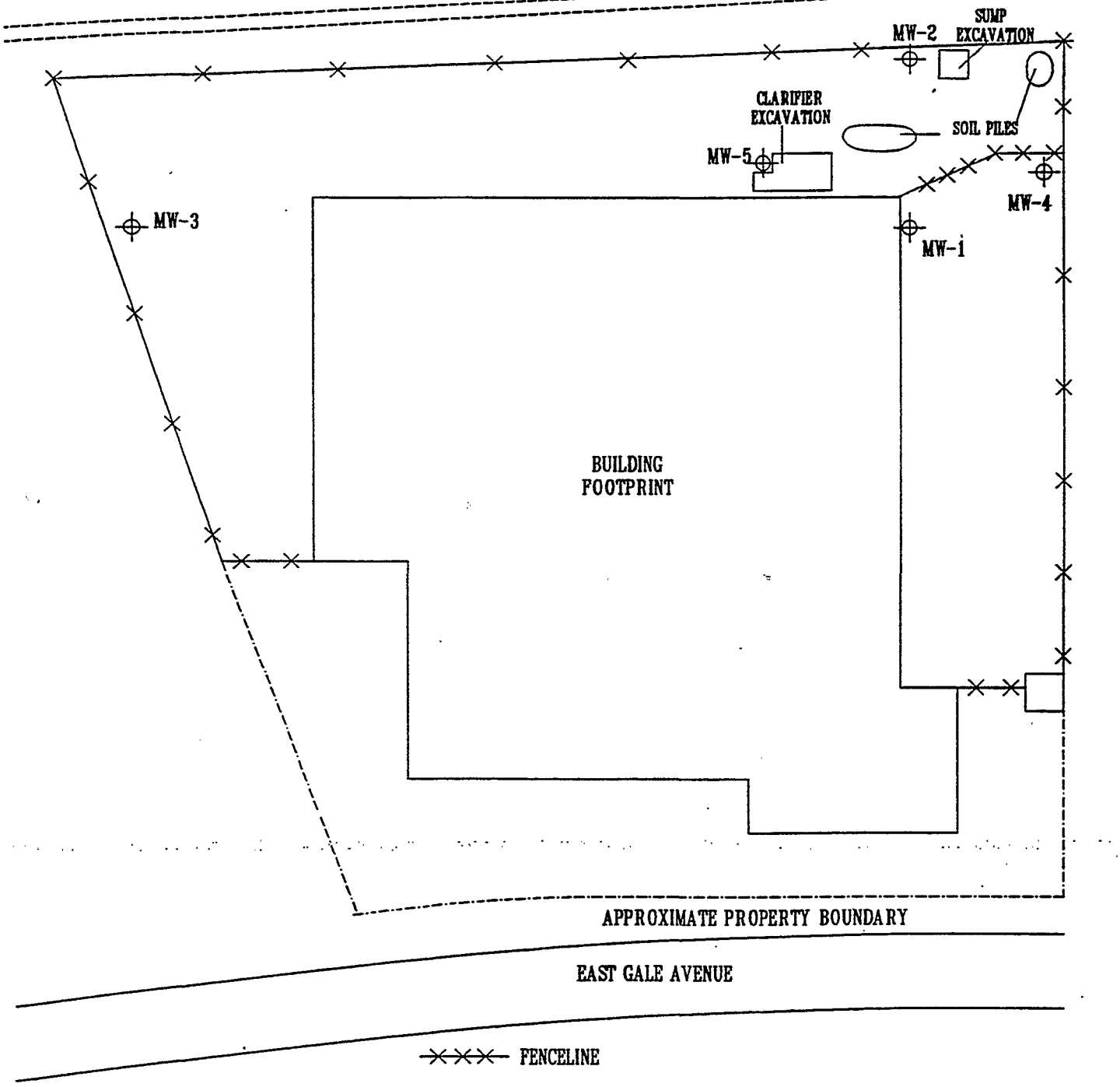
This report submitted by:

Guy K. Romine
Geologist

This report reviewed by:

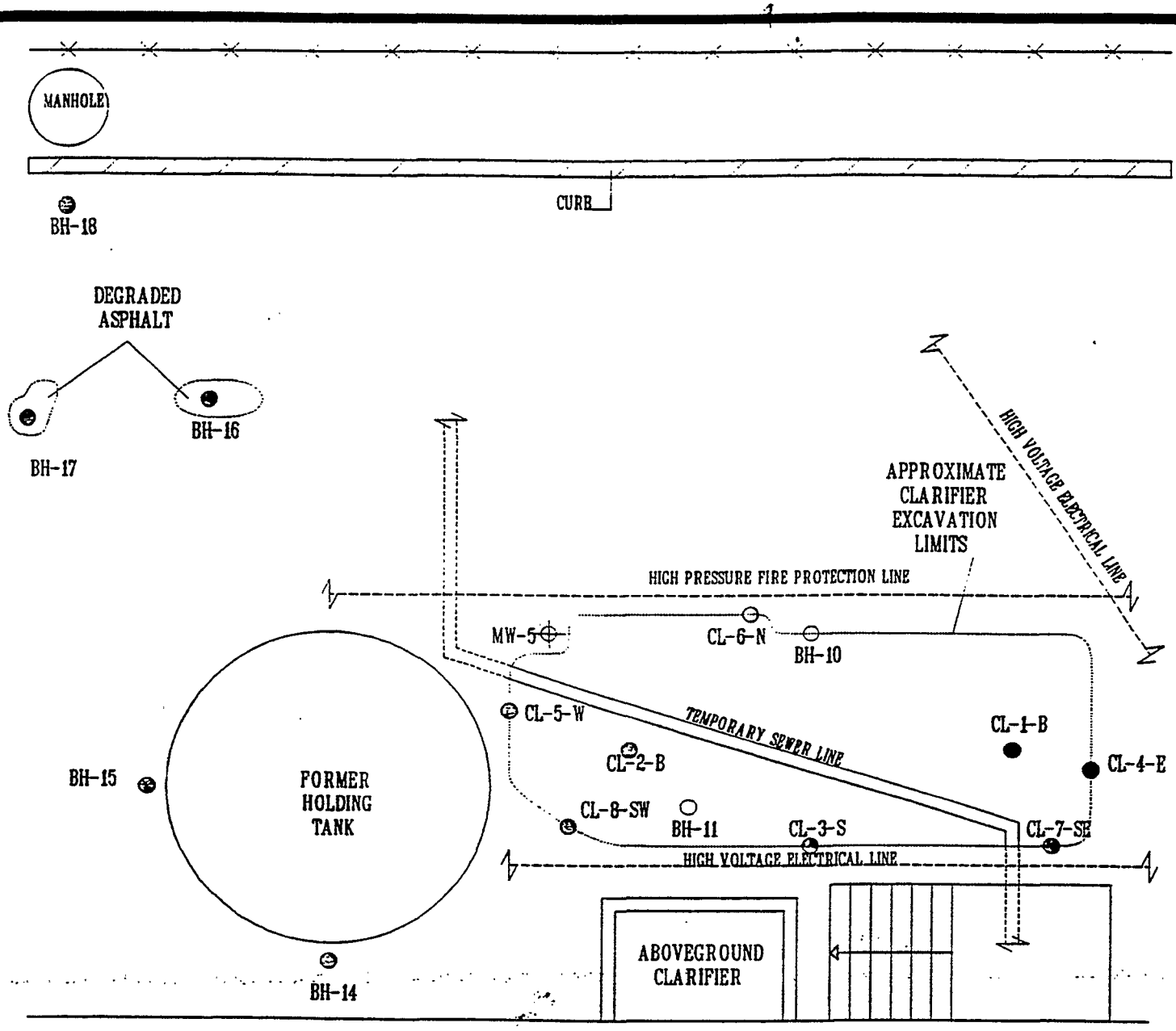
David H. Randell
Registered Geologist, No. 3977
Manager, Environmental Engineering
Pacific Operations

May 15, 1992



DRAWING NOT TO SCALE

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.	FIGURE
SITE LOCATION MAP	2
STOODY COMPANY INDUSTRY, CALIFORNIA — PROJECT NO. 37861.00	1/92



● APPROXIMATE BOREHOLE LOCATION (11/91)

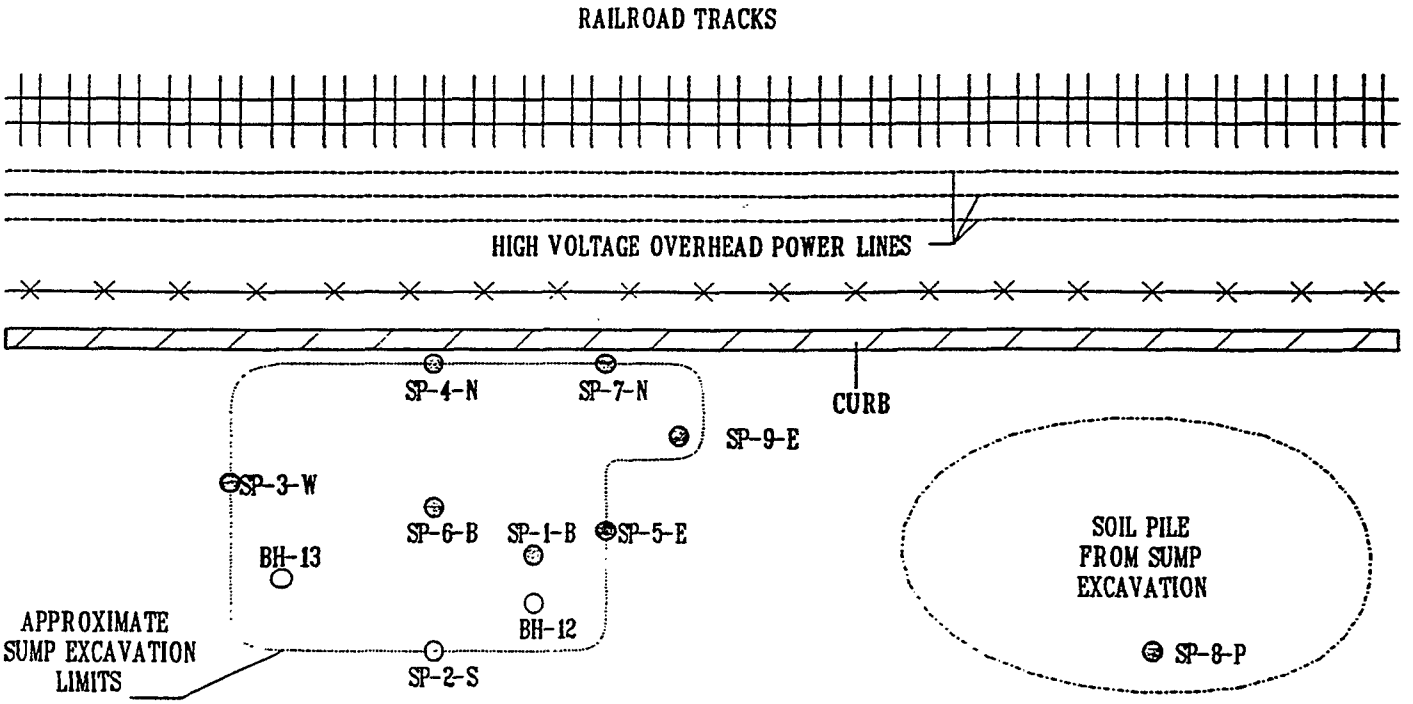
○ APPROXIMATE BOREHOLE LOCATION (2/91)

⤫ FENCE LINE

DRAWING NOT TO SCALE

NORTH

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.	FIGURE
CLARIFIER LOCATION MAP	3
STOODY COMPANY INDUSTRY, CALIFORNIA	PROJECT NO. 37861.00
	1/92



⊖ APPROXIMATE BOREHOLE LOCATION (11/91)

○ APPROXIMATE BOREHOLE LOCATION (2/91)

FENCE LINE

DRAWING NOT TO SCALE

NORTH

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.	FIGURE
SUMP LOCATION MAP	4
STOODY COMPANY INDUSTRY, CALIFORNIA — PROJECT NO. 37861.00	1/92

Table 1
Summary Table of Results for EPA Method 8240 and 418.1 (Concentrations in mg/kg)
for Volatile Organic Compounds
at
Stoody Company
City of Industry, California
Clayton Project No. 37861.00
Sampling Date: November 6, 1991

Soil Sample No.	TRPH	Toluene	Total Xylene	Acetone	2-Butanone	4-methyl-2-Pentanone	Tetra-Chloro-ethene	STLC Metal Above Threshold Limit	Copper	Hexavalent Chromium	Nickel
Cleanup Level	10.0	1.0	17.5	NA			0.050		10.0	0.5	1.5
SP-1-B	<10	ND	ND	ND	ND	ND	0.011	ND	23	<0.1	20
SP-2-S	<10	0.004	ND	ND	ND	ND	0.017	ND	29	<0.1	24
SP-3-W	<10	ND	ND	ND	ND	ND	0.005	ND	30	<0.1	26
SP-4-N	180	ND	ND	0.050	ND	ND	0.004	ND	23	<0.1	20
SP-5-E	<10	ND	ND	0.080	ND	ND	0.008	ND	28	<0.1	24
METHOD BLANK	<10	ND	ND	ND	ND	ND	ND	ND	<1	<0.1	<1
CL-1-B	3700	0.020	0.090	0.290	0.020	0.030	ND	ND	19	<0.1	19
CL-2-B	<10	0.002	ND	0.029	0.020	0.030	ND	ND	21	<0.1	19
CL-3-S	3400	0.013	0.005	ND	ND	ND	0.005	ND	29	<0.1	26
CL-4-E	25000	0.150	0.030	0.200	ND	ND	ND	ND	29	<0.1	160
CL-5-W	16000	0.040	0.040	0.200	ND	ND	ND	ND	25	<0.1	22
CL-6-N	21000	0.051	0.038	0.120	ND	ND	0.017	ND	24	<0.1	22

37861-1.TBL

Table 1 (Continued)
Summary Table of Results for EPA Method 8240 and 418.1 (Concentrations in mg/kg)
for Volatile Organic Compounds
at
Stoody Company
City of Industry, California
Clayton Project No. 37861.00
Sampling Date: November 6, 1991

Soil Sample No.	TRPH	Toluene	Total Xylene	Acetone	2-Butanone	4-methyl-2-Pentanone	Tetra-Chloro-ethene	STLC Metal Above Threshold Limit	Copper	Hexavalent Chromium	Nickel
/CL-7-SE	15000	ND	0.070	0.020	ND	ND	0.030	ND	24	<0.1	180
CL-8-SW	18000	0.060	0.060	0.400	ND	ND	0.030	ND	28	<0.1	21
METHOD BLANK	ND	ND	ND	ND	ND	ND	ND	ND	<1	<0.1	<1

ND: Not detected at or above limit of detection
mg/kg: Milligrams per kilogram (generally equivalent to parts per million)
NA: Information not available
<: Not detected at or above limit of detection

Table 2
Summary Table of Results for EPA Method 8240, 418.1, and Metals
(Concentrations in mg/kg)
for Volatile Organic Compounds
at
Stoody Company
City of Industry, California
Clayton Project No. 37861.00
Sampling Date: November 7, 1991

Soil Sample No.	TRPH	Freon 113	Tetra-chloro-ethene	Toluene	Trichloro-ethene	Cis-1,2-Dichloro-ethene	Copper	Nickel	Hexavalent Chromium
BH-14-1'	<10	0.005	ND	ND	ND	ND	26	24	<0.1
BH-13-1'	<10	0.005	ND	ND	ND	ND	27	21	<0.1
BH-15-5'	<10	0.004	ND	ND	ND	ND	30	26	<0.1
BH-16-1'	210	ND	ND	ND	ND	ND	27	22	<0.1
BH-16-5'	<10	ND	ND	ND	ND	ND	19	19	<0.1
BH-17-1'	<10	ND	ND	ND	ND	ND	34	19	<0.1
BH-17-5'	<10	ND	ND	ND	ND	ND	28	26	<0.1
BH-18-1'	<10	ND	0.007	ND	ND	ND	31	28	<0.1
BH-18-5'	<10	ND	ND	ND	ND	ND	30	26	<0.1
SP-6-N	<10	ND	ND	ND	ND	ND	34	23	<0.1
SP-7-NE	<10	ND	0.032	0.005	ND	ND	25	18	<0.1
SP-9-NW	<10	ND	ND	ND	ND	ND	32	21	<0.1
Method Blank	ND	ND	ND	ND	ND	ND	<1	<1	0.1

REFERENCE [9]

ADDITIONAL SUBSURFACE SOIL INVESTIGATION
NEAR THE REMOVED CLARIFIER
CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
14 SEPTEMBER 1992

The soil samples were divided immediately upon retrieval. The second sleeve of soil was removed from the sampler and sealed with aluminum foil, plastic end caps, and Scotch™ 33+ electrical tape. It was then labeled, inserted in a self-sealing plastic bag, and placed on ice in an ice chest for transportation to Clayton's state-certified laboratory for analyses. Standard chain-of-custody procedures were followed.

The first sleeve of the sampler was field evaluated for volatile organic compounds using an organic vapor analysis (OVA) headspace technique. A portion of the contents of the first sleeve was put into a self-sealing plastic bag and allowed to volatilize in direct sunlight for a minimum of 30 minutes. A sensor tip of a photoionization detection (PID) was then inserted through the plastic bag. The concentration of VOCs in the plastic bag was measured with the PID meter and recorded on the borehole logs.

The boreholes and soil samples were described by a Clayton geologist under the supervision of a California registered geologist using the Unified Soil Classification System (USCS). Borehole logs are provided in Appendix C. The PID meter was also used to measure breathing zone and borehole concentrations of VOCs during the drilling activities.

2.1.2 Decontamination Procedures

In order to minimize the potential for cross-contamination, decontamination procedures for the equipment used during the field work were followed. The drilling augers and bits used in the drilling of the boreholes were steam cleaned prior to drilling of a new borehole.

The equipment was steam cleaned in a predetermined area. The water used in the steam cleaning and the rinsates from the cleaning procedures was contained in Class 17-H, 55-gallon drums for storage and disposal by Stoody Company.

Clayton hand washed the sampling devices prior to all sampling events. They were washed in an Alconox™ detergent solution, rinsed twice in potable water, and final rinsed in deionized water.

2.2 FIELD WORK

The field work performed was based on the results of the laboratory analysis of the soil samples collected during the soil remediation activities conducted in November 1991 and from the observations made in the field during that time. Field work consisted of soil investigation using a truck-mounted drilling rig in the area of the former clarifier and inside the building foundation.

2.2.1 Industrial Clarifier Area

Two boreholes, BH-24 and BH-25, were drilled on the north side of the former clarifier to a depth of approximately 30 feet below ground surface (Appendix A, Figure 3). Borehole BH-24 and BH-25 were drilled to assess the maximum vertical extent of TRPH in the soil and the lateral extent of the contamination to the north.

One borehole, BH-26 was drilled on the west side of the former clarifier to a depth of approximately 30 feet. This borehole was drilled to assess the lateral extent of contamination to the west.

Boreholes BH-22 and BH-23 were hand augered and sampled with a drive sampler to assess the extent of the TPH in the soil near the south side of the former clarifier and near the underground electrical lines. Boreholes BH-22 and BH-23 were drilled about 3 to 4 feet north of the outside wall of the building (Figure 3, Appendix A). The depth of each of those boreholes was 10 feet.

2.2.2 Inside the Building Foundation

Three boreholes, BH-19, BH-20, and BH-21, were drilled vertically inside the building on the south side of the northern exterior wall to assess if soil contamination had spread under the building foundation (Appendix A, Figure 3). The depth of the boreholes was approximately 30 feet. The borehole logs for BH-19 through BH-26 are provided in Appendix C.

2.3 ANALYTICAL METHODS

Laboratory analyses of the soil samples from the previous site assessment revealed the presence of TRPH, and VOCs. Based on those results Clayton used the following test methods for soil analyses:

- EPA Method 418.1 for TRPH
- EPA Method 8240 for VOCs
- TTLC for copper
- TTLC for nickel
- TTLC for chromium VI

Based on the previous site assessment work and correspondence from the CRWQCB issued to Stoody Company on October 22, 1990, Clayton used established guidelines for acceptable concentrations of contaminants that could be left in the soil (Appendix A, Table 1).

The soil samples were laboratory analyzed on a 7-day or less turnaround schedule for EPA Method 8240 and EPA Method 418.1. Laboratory analytical results are summarized in Tables 2 and 3 in Appendix A and are provided, along with the chain-of-custody forms, in Appendix D.

3.0 INVESTIGATION RESULTS

A total of 37 soil samples were submitted for laboratory analyses from the eight boreholes (BH-19 through BH-26). The laboratory reported no detection of TRPH (EPA Method 418.1) at a detection limit of 30 mg/kg, or purgeable organic compounds (EPA Method 8010/8020) at detection limits ranging from 0.02 to 0.005 mg/kg. A total of eight soil samples were analyzed for copper, nickel and chromium VI metals. The laboratory reported concentrations of these metals that were below corresponding total threshold limit concentrations (TTLC) and soluble threshold limit concentrations (STLC). Table 3 is a summary of these results. The detections of copper and nickel ranged from 10 mg/kg to 20 mg/kg.

The extent of contaminated soil near the former clarifier appears to be confined to an area east of BH-26, north of the building foundation, high voltage electrical lines and BH-22 and BH-23, south of BH-24 and BH-25 and west of the Southern California Edison (SCE) metering station.

The laboratory results from soil sampling within the building foundation indicate that no soil contamination has occurred under the building. Figure 4 (Appendix A) illustrates the estimated extent of the lateral spread of soil contamination. The extent of contaminated soil directly under the clarifier is likely to be as deep as 18 to 25 feet. The total volume of contaminated soil appears to be approximately 400 cubic yards. The estimation of the extent of soil contamination is based on our current investigations as well as previous investigations in this location.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Based on our findings during the current remediation activities and our past investigations at the site, Clayton concludes the following:

- The analytical results from the soil samples taken from the eight boreholes indicate the lateral extent of soil contamination by TRPH is limited to an area north of the building and high voltage electrical lines, south of BH-24 and BH-25, and east of BH-26 (Figure 4, Appendix A).

- The TRPH-contaminated soil identified in the first phase of work and additional contaminated soil along the sidewalls and below the previous excavation limits should be excavated and shipped offsite to a remediation/disposal site. This excavation work should be conducted under a Remedial Action Plan, similar to that originally prepared for the first phase of remediation.

- The metals concentrations reported in the laboratory analyses are similar to concentrations normally found in native soils. The level of metals in the soil should not be considered soil contaminants. Clayton recommends no further remediation be performed in regards to these metals.

5.0 LIMITATIONS

The information and opinions rendered in this report are exclusively for use by the Stoody Company. Clayton Environmental Consultants, Inc. will not distribute this report without Stoody Company consent except as may be required by law or court order. The information and opinions expressed in this report are given in response to our limited assignment and should be evaluated and implemented only in light of that assignment. We accept responsibility for the competent performance of our duties in executing the assignment and preparing this report in accordance with the normal standards of our profession but disclaim any responsibility for consequential damages.

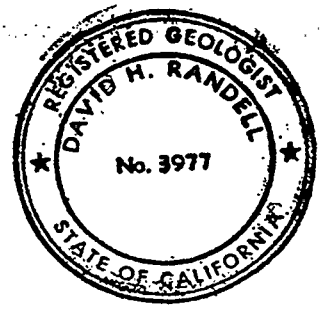
This report submitted by: G. K. Romine

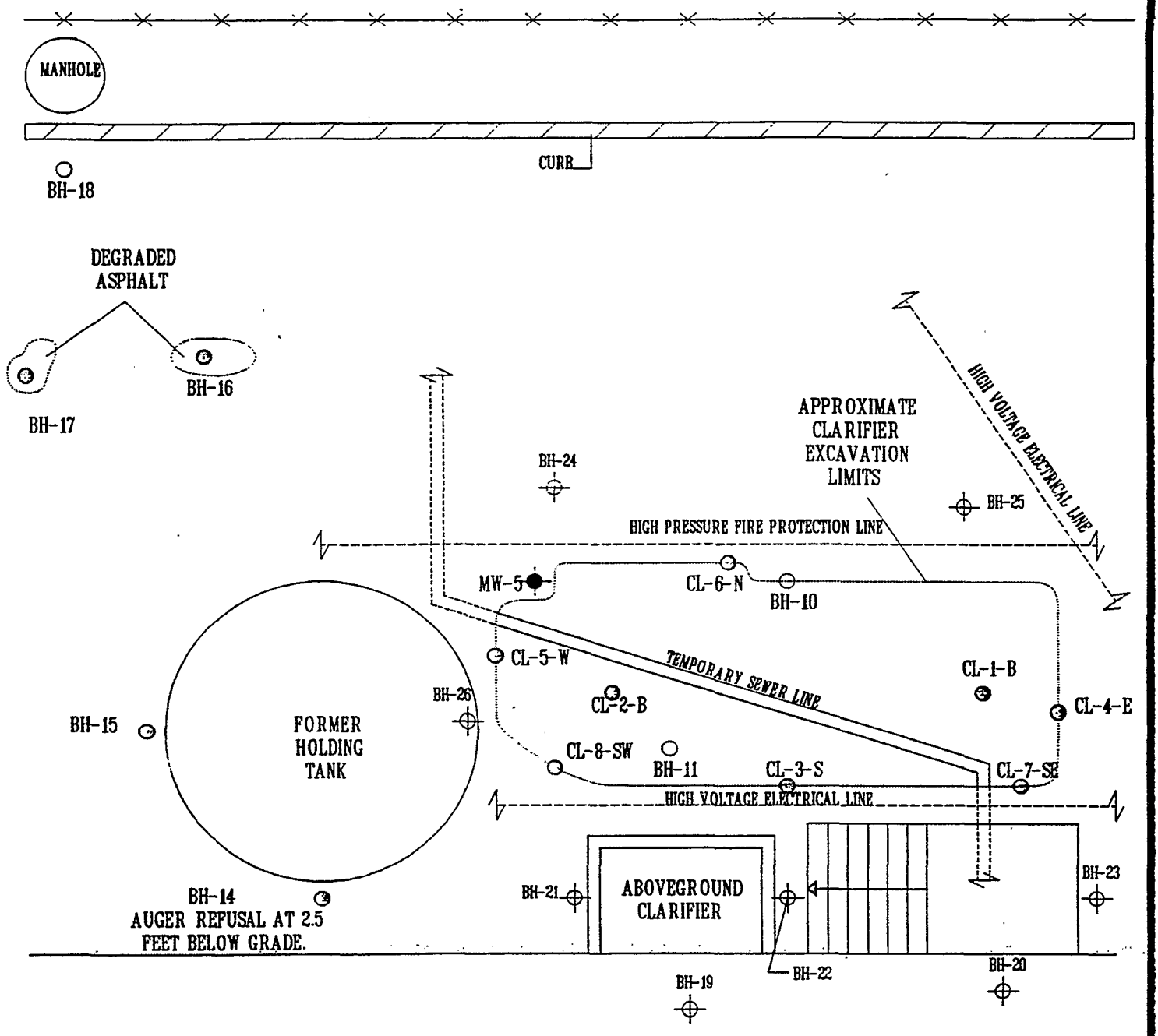
Guy K. Romine
Geologist

This report reviewed by: David H. Randell

David H. Randell
Registered Geologist, No. 3977
Manager, Environmental Engineering
Pacific Operations

September 14, 1992



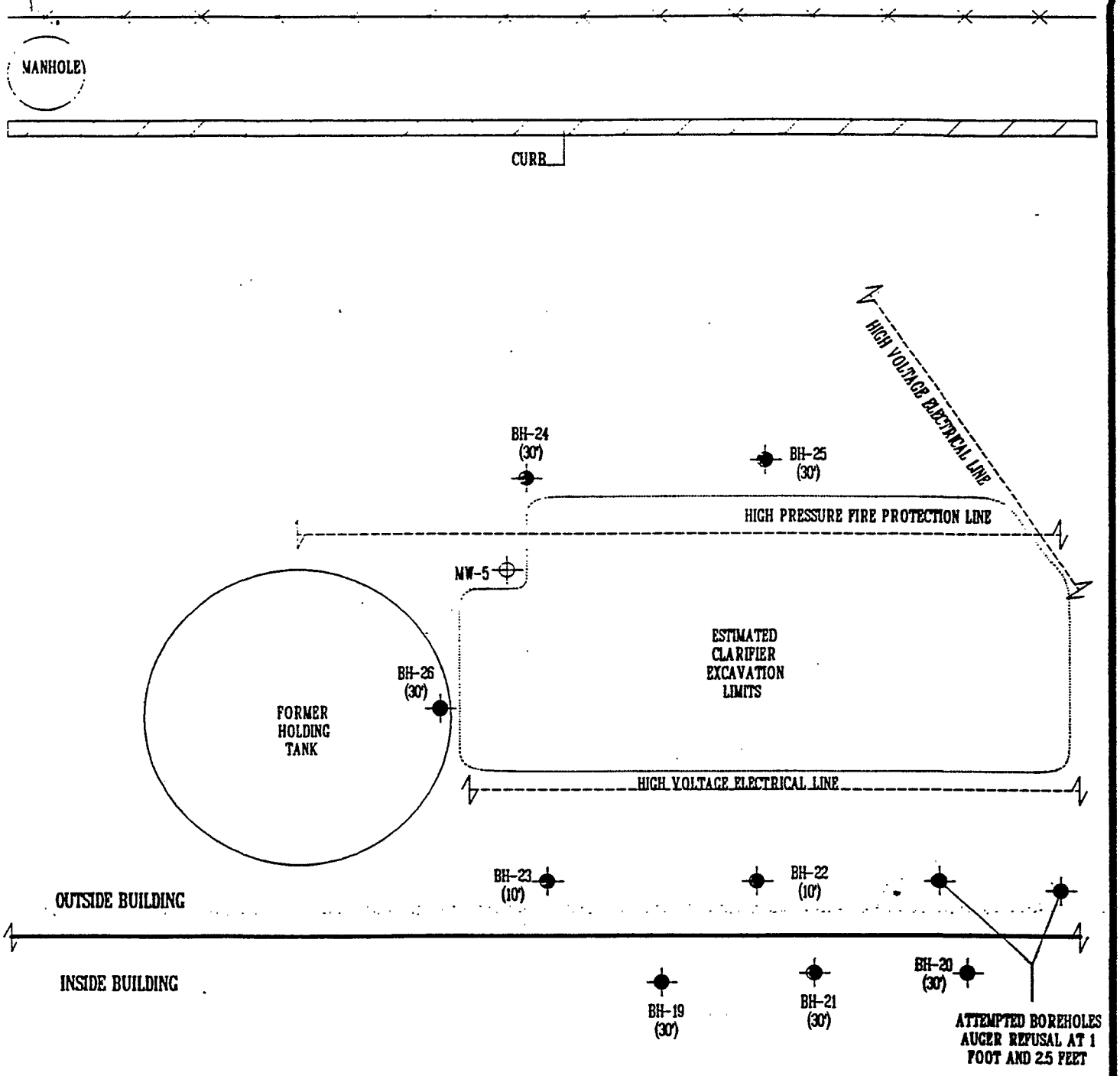


- APPROXIMATE BOREHOLE LOCATION (11/91)
- APPROXIMATE BOREHOLE LOCATION (2/91)
- FENCE LINE
- APPROXIMATE MONITORING WELL LOCATION
- APPROXIMATE PROPOSED ADDITIONAL BOREHOLE LOCATION

DRAWING NOT TO SCALE

NORTH

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.	FIGURE
CLARIFIER LOCATION MAP	3
STOODY COMPANY INDUSTRY, CALIFORNIA PROJECT NO. 41184.00	9/92



FENCE LINE

APPROXIMATE MONITORING WELL LOCATION

APPROXIMATE BOREHOLE LOCATION (7/92)

DRAWING NOT TO SCALE

NORTH

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.	FIGURE
ESTIMATED CLARIFIER EXCAVATION LIMIT MAP THERMADYNE INDUSTRIES STOODY COMPANY FACILITY INDUSTRY, CALIFORNIA PROJECT NO. 41184.00	4 9/92

Table 2
Summary of Laboratory Analyses for Soil Samples
at
Stoody Company
City of Industry, California
Clayton Project No. 41184.00
Sampling Date: July 6, 1992

Borehole No.	Depth (feet)	Laboratory Results*	
		EPA Method 8240 Low level (mg/kg)	EPA Method 418.1 TRPH (mg/kg)
BH-19	10	ND	ND
	15	ND	ND
	20	ND	ND
	25	ND	ND
	30	ND	ND
BH-20	10	ND	ND
	15	ND	ND
	20	ND	ND
	25	ND	ND
	30	ND	ND
BH-21	10	ND	ND
	15	ND	ND
	20	ND	ND
	25	ND	ND
	30	ND	ND
BH-22	5	ND	ND
	10	ND	ND
BH-23	5	ND	ND
	10	ND	ND
BH-24	5	ND	ND
	10	ND	ND
	15	ND	ND
	20	ND	ND
	25	ND	ND
	30	ND	ND

1

Table 2 (Continued)
Summary of Laboratory Analyses for Soil Samples
at
Stoody Company
City of Industry, California
Clayton Project No. 41184.00
Sampling Date: July 6, 1992

Borehole No.	Depth (feet)	Laboratory Results*	
		EPA Method 8240 Low level (mg/kg)	EPA Method 418.1 TRPH (mg/kg)
BH-25	5	ND	ND
	10	ND	ND
	15	ND	ND
	20	ND	ND
	25	ND	ND
	30	ND	ND
BH-26	5	ND	ND
	10	ND	ND
	15	ND	ND
	20	ND	ND
	25	ND	ND
	30	ND	ND
Method Blank I	---	ND	ND
Method Blank II	---	ND	ND
Method Blank III	---	ND	ND

*Detection Limits: EPA Method 8240 0.02-0.005 mg/kg, EPA Method 418.1 30 mg/kg

mg/kg: Milligrams per kilogram, generally equivalent to parts per million (ppm)
TRPH: Total recoverable petroleum hydrocarbons

Note: Soil samples were collected July 6, 1992. The EPA Method 8240 analyses were conducted from July 9, to July 13, 1992. The EPA Method 418.1 analyses were conducted on July 9, and July 13, 1992.

Table 3
Summary of Laboratory Analyses
for Soil Samples for Selected Metals
at
Stoody Company
City of Industry, California
Clayton Project No. 41184.00
Sampling Date: July 6, 1992

Borehole No.	Depth (feet)	Chromium(6) Method 7196 (mg/kg)	Copper Method 6010 (mg/kg)	Nickel Method 6010 (mg/kg)
BH-19	20	<1	18	17
BH-20	20	<1	13	14
BH-21	20	<1	12	13
BH-22	-10	<1	20	19
BH-23	10	<1	18	18
BH-24	15	<1	14	10
BH-25	15	<1	12	11
BH-26	15	<1	16	14
Method Blank I	---	<1	<1	<1
Hazardous waste concentrations				
TTLC (Title 22)		500	2,500	2,000
STLC (Title 22)		5	25	20

Detection Limits: Chromium 0.1 mg/kg
Copper 1 mg/kg
Nickel 1 mg/kg

mg/kg: Milligrams per kilogram, generally equivalent to parts per million (ppm)

Note: Soil samples were collected July 6, 1992. The chromium analysis was conducted on July 9, 1992. The copper analysis was conducted on July 16, 1992, and the nickel analysis was conducted on July 16, 1992.

REFERENCE [10]

REMEDIAL ACTION PLAN FOR ADDITIONAL SOIL REMOVAL
NEAR THE REMOVED CLARIFIER
CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
14 SEPTEMBER 1992

extent of soil contamination in the area of the former clarifier (Appendix A, Figure 3). This workplan was requested by the CRWQCB, in a meeting held between Mr. Romine and Mr. Randell of Clayton, Mr. Casper of Thermadyne Industries, and representatives of the CRWQCB. Clayton received approval to begin work on June 16, 1992.

On July 6, 1992, Clayton conducted an additional subsurface investigation to further assess the extent of soil contamination near the former clarifier. The results of this investigation indicated that the lateral extent of soil contamination by TRPH was limited to an area north of the building and high voltage electrical lines, south of BH-24 and BH-25 and east of BH-26 (Figure 4, Appendix A).

The laboratory results from soil sampling within the building foundation indicated that no soil contamination has occurred under the building. Figure 4 (Appendix A) illustrates the estimated extent of the lateral spread of soil contamination. The extent of contaminated soil directly under the clarifier is likely to be as deep as 18 to 25 feet. The total volume of contaminated soil appears to be approximately 400 cubic yards. The estimation of the extent of soil contamination is based on Clayton's current investigation as well as previous investigations in this location.

1.2 OBJECTIVES

Clayton's objectives now are to provide a RAP that is acceptable to the CRWQCB for the removal of a sufficient volume of contaminated soil in the area of the former clarifier to meet the requirements of the CRWQCB and provide a safe stable foundation for soil removal near the building footing.

1.3 SCOPE OF WORK

Clayton will perform the following scope of work to accomplish the objectives for the soil remediation at the former clarifier location:

- Acquire appropriate excavation permits and update health and safety plan for the site.

- Excavate contaminated soil in the area adjacent to the building with a bucket auger to a maximum depth of 30 feet. Backfill the bucket auger boreholes with a 1-1/2 to 2 sack cement slurry. This process will be repeated until the body of contamination is removed along the edge of the building.

- Excavate contaminated soil in the area of the clarifier with a clam-shovel type excavator to a maximum depth of 30 feet.

- Place excavated soil on a plastic liner for future disposal based on laboratory results using a combination of on-site and off-site laboratory services.

- Monitor vapors from the excavation and spoils piles to comply with South Coast Air Quality Management District (SCAQMD) Rule 1166.

- Collect soil samples from the boreholes and pit during excavating to assess the extent of soil contamination and guide the excavation effort.

- Analyze soil samples in a laboratory certified by the State of California, Department of Health Services.

- Cover excavation spoils pile(s) with plastic sheeting.

- Prepare and submit a closure report.

- Coordinate the permanent reinstallation of the sewer line that crosses the excavation.

- Backfill and compact the excavation with imported fill material after confirming soil samples demonstrate adequate cleanup was achieved.

- Repave the surface with asphaltic concrete to match the existing pavement.

2.0 REMEDIATION ACTIVITIES

Clayton's remediation will consist of three distinct activities: field procedures, field work, and laboratory analyses. These activities will be performed to meet the existing site constraints, the remediation objectives, and the requirements of the CRWQCB.

In addition, Clayton will prepare a site-specific Health and Safety Plan in accordance with current Occupational Safety and Health Administration (OSHA) requirements as described in CFR 1910.120.

2.1 FIELD PROCEDURES

Clayton will use the following field procedures to monitor the field activities used during remediation. These procedures will be used for excavating the contaminated soil, sampling the excavation limits, and analyzing the soil samples.

Table 1
Remediation Action Levels
at
Stoody Company
City of Industry, California
Clayton Project No. 41184.01

Detected Chemical Constituents	Abbreviation	DHS or MCL (µg/L)	Soil Cleanup Level* (mg/kg)
Organic			
Acetone	ACT	NA	NA
1,2-Dichloroethene (total)	1,2-DCE	0.5 MCL	.005
Cis-1,2-dichloroethene	Cis-1,2-DCE	6 MCL & DHS	0.06
Ethylbenzene	EB	680 MCL	6.80
Tetrachloroethene	PCE	5 MCL/DHS	0.050
Toluene	TOL	100 DHS	1.0
Trans-1,2-dichloroethene	TRANS-1,2-DCE	10 MCL & DHS	0.10
Trichloroethene	TCE	5 MCL	0.05
Total Recoverable Petroleum Hydrocarbons	TRPH	NA	10.0
Xylene, (total)	XYL	1750 MCL	17.5
Inorganic			
Chromium^{+6}	Cr^{tot}	50 MCL	0.5
	Cr^{+6}	50 MCL	0.5
Copper	Cu	1000 MCL	10.0
Nickel	Ni	150 SNARL	1.5

*Soil cleanup levels shown are 10 times DHS or MCL and converted to mg/kg
µg/L: Microgram per liter, generally equivalent to parts per billion
mg/kg: Milligram per kilogram, generally equivalent to parts per million
SNARL: Suggested no adverse response level
NA: Not available
DHS: California Department of Health Services
MCL: EPA maximum contaminant level

REFERENCE [11]

CLOSURE AND SOIL REMEDIATION REPORT
CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
23 MAY 1994

1.0 INTRODUCTION

Thermadyne Industries retained Clayton Environmental Consultants Inc., (Clayton) in 1988 to conduct environmental investigations for the Stoody Company facility at 16425 East Gale Avenue in Industry, California (Figure 1). The purpose of the environmental investigations was to evaluate housekeeping practices and test the soil and groundwater beneath the site for possible contamination from manufacturing operations.

2.0 BACKGROUND

The Stoody Company (Stoody) is a leading manufacturer of welding consumable (welding rods and wire) and specialized die-cast wear resistant alloy parts. Stoody began manufacturing operations at the Industry site in 1976. The property was purchased by Stoody from the Kaiser-Etna Real Estate Development Company (Kaiser-Etna). Kaiser-Etna developed the property as part of the Bixby Industrial Park, converting it from farmland in the mid-1970s.

Manufacturing operations at the Stoody facility ceased in late 1991. Currently the facility is used for warehousing.

3.0 SUMMARY OF PREVIOUS WORK COMPLETED

In 1987, the California Regional Water Quality Control Board (CRWQCB), Los Angeles Region, working as an agent for the Environmental Protection Agency (EPA) requested that all industrial companies in the City of Industry complete an inventory and activities questionnaire as part of the San Gabriel Valley Superfund investigation. Volatile organic compounds (VOCs) were found in the drinking water beneath the San Gabriel Valley.

Stoody completed the questionnaire in December 1987. A site inspection was conducted by the CRWQCB on March 21, 1988 and identified five areas that would require subsurface investigation. A General Housekeeping Plan and subsurface investigation work plan was submitted to the CRWQCB on June 15, 1988. On October 19, 1988 a report was submitted to the CRWQCB discussing the results of the initial subsurface investigation. A map showing the sampling locations and a table summarizing analytical results are in Appendix A.

A work plan for groundwater monitoring was also submitted on October 19, 1988. The plan was approved by the CRWQCB. Clayton installed three groundwater monitoring wells, MW-1 through MW-3 in January, 1989 and MW-4 in March 1989 (Clayton 1989).

In November 1989, Clayton submitted a work plan for a vadose zone investigation and an inspection of a clarifier located north of the manufacturing building. In

January 1990, Clayton was retained to sample and visually inspect the clarifier and to assess subsurface soil conditions adjacent to the clarifier and a concrete sump near the former chemical storage area (Figure 2). Both tasks were designed to meet the CRWQCB's request for investigation of potentially contaminated areas. Site investigations began in 1988, however the clarifier was not investigated until 1990.

On January 18 and 19, 1990, three 10-foot boreholes (SB-1 through SB-3) were drilled and sampled in the chemical storage area and two boreholes (SB-4 and SB-5) were drilled and sampled near the industrial waste clarifier. The subsurface soil investigation and industrial clarifier inspection report was submitted to the CRWQCB on February 28, 1990. The location of the former clarifier and the former sump area are shown in Figure 2. The results of the analyses are in Tables 2 and 3 (not dated) in Appendix A.

On January 31 and February 1, 1991, Clayton drilled four exploratory boreholes, BH-10 through BH-13, and one additional groundwater monitoring well, MW-5. Two of the boreholes, BH-10 and BH-11, were drilled in the area of the industrial clarifier and MW-5 was installed just downgradient of the clarifier. The location of these two boreholes is shown as two solid circles in Figure 2, Appendix A. Boreholes BH-12 and BH-13 were drilled in the area of the sump in the chemical storage area.

In August 1991, Clayton completed a RAP that detailed the removal of the sump and clarifier in accordance with the CRWQCB requirements stated in their July 3, 1991, letter to Stoody. Implementation of the RAP began on November 4, 1991.

In November 1991, Clayton Environmental began the implementation of its remedial action plan (RAP) for the removal of the clarifier and the contaminated soil surrounding the clarifier and the sump both located in the north end of the Stoody facility (see Figure 2). Both the sump and contaminated soil around the sump was removed (Clayton, 1992a).

Eight soil samples (CL-1-B through CL-8-SW) were collected from the excavation limits defined by the removal of the clarifier. Results indicated that high concentrations of TRPH remained in the sidewalls and bottom of the excavation created by the removal of the clarifier. In addition nine near-surface soil samples (i.e., samples collected from 1 to 5 ft. bgs) were collected in six locations (BH-13 through BH-18) around the clarifier. Appendix A contains the approximate sampling locations of these boreholes. Table 1 in Appendix A (dated November 6, 1991) contains a summary of the laboratory results of this investigation.

A soil remediation report describing the removal of the sump and clarifier was submitted to the CRWQCB on January 6, 1992 and resubmitted on May 15, 1992 after it was revised by the CRWQCB . The soil contaminated around the sump area was hauled off and manifested during this remediation effort, however the soil excavated around the clarifier area was placed backed in the excavation pending further investigation (Clayton, 1992a).

On April 29, 1992, Clayton was retained by Stoody to provide a workplan to further assess the extent of soil contamination in the area of the former clarifier. Clayton prepared a workplan for this task on May 18, 1992 (Clayton 1992b), and received written approval from the CRWQCB in their correspondence dated June 12, 1992. A total of eight boreholes (BH-19 through BH-26) were drilled on July 1992 in an area surrounding the clarifier, six boreholes were drilled to a depth of 30 ft below ground surface (bgs) and two boreholes were hand augered to a depth of 10 feet bgs.

Soil samples were collected every 5 feet, a total of 37 soil samples were collected and analyzed by EPA Method 418.1 for TRPH and by EPA Method 8240 for VOCs. The laboratory reported no detection of TRPH or VOCs at or above the detection limits in any of the soil samples analyzed. One soil sample from each borehole was also analyzed for chromium (+6) by EPA Method 7196, copper by EPA Method 6010 and Nickel by EPA method 6010. The metal concentrations reported by the laboratory were found similar to concentrations normally found in native soils. Tables 1 and 2 (dated July 1992) in Appendix A contain a summary of analytical results of the soil samples collected during this investigation as well as the approximate sampling locations.

Clayton prepared a RAP to finalized the soil remediation near the clarifier and submitted it to the CRWQCB on September 17, 1992 (Clayton, 1992d). The RAP received comments from the CRWQCB on their correspondence dated October 15, 1992 and the comments were incorporated by Clayton in two addendums submitted to the CRWQCB on November 17, 1992 (Clayton, 1992e and 1992f). Written approval from the CRWQCB for the implementation of the RAP was issued on December 2, 1992 (Appendix B).

4.0 SCOPE OF WORK

Clayton completed the following tasks to perform the soil remediation:

- Notify the CRWQCB of the schedule of field activities
- Abandoned monitoring well MW-5
- Exposed and identified all the utilities in the excavation and drilling areas
- Drilled eleven 3-foot diameters borings using a bucket auger to depths ranging from 30 to 38 feet bgs on the south side of the excavation to remove contaminated soil and form a reinforced concrete wall to protect the building foundation, the transformer pad and to avoid undermining the electrical utilities in the immediate area of the excavation.
- Rerouted the main sewer line coming from the building to allow the removal of contaminated soil around it

- Collected and laboratory analyzed soil samples from the borings, and the excavation limits (i.e., the excavation walls and bottom)
- Obtained approval to backfill from the CRWQCB
- Backfilled and compacted the excavation

5.0 GEOLOGY AND HYDROGEOLOGY

The site is located near the base of the Puente Hills in the southeastern San Gabriel Valley. The alluvium below the site is of Holocene age (11,000 years old) and consists of nonmarine deposits of silt, clay, and sand. These sediments are erosional deposits from the nearby Puente Hills and San Jose Hills. The alluvium was deposited as fluvial (stream and alluvial fan) sediments. According to the U.S. Department of Agriculture Soil Conservation Service, the original surficial deposits (soil) of this area generally consist of the Hanford Association, a sandy loam (USDA, 1969).

Hydrologically, the site is within the San Gabriel Valley Groundwater Basin. Groundwater in the basin generally flows from surrounding hills and mountains towards the valley center, with an overall flow to the southwest. The principal surface water drainage in the San Gabriel Valley is the San Gabriel River and San Jose Creek. The site lies about 1/2 mile south of the westerly flowing San Jose Creek. The Creek joins the San Gabriel River approximately 4 miles west of the subject property (CDWR, 1961).

The depth to groundwater at the time of the remediation was approximately 24 feet below ground surface, based on the measurement taken from MW-5 prior to its abandonment and is generally flowing in a westerly direction.

6.0 FIELD ACTIVITIES

The implementation of the field activities consisted of the following three major tasks:

1) Removal of Monitoring Well MW-5
2) Excavation and backfilling activities
3) Collection of soil samples
4) Soil disposal

6.1 REMOVAL OF MONITORING WELL MW-5

Well MW-5 was removed because its location was within the area of the excavation. The well was removed on October 26, 1993, prior to conducting the excavation activities.

The monitoring well casing was removed by overdrilling with a hollow stem auger drill rig around the casing. The entire well casing, approximately 60 ft., was

tank and hauled offsite for treatment to the Crosby & Overton facility in Long Beach, California. A copy of the hazardous waste manifest for 378 gallons of water generated from the boreholes and the decontamination of the sampling equipment is enclosed in Appendix H.

The soil stockpiles that resulted from the excavation were temporarily placed on and covered with plastic sheeting in accordance with South Coast Air Quality Management District regulations pending transportation and disposal. The stockpiles (485 tons) were manifested (with non-hazardous waste manifests) and transported to Clean Soils Inc. for recycling. Clean Soils Inc. facility is located in Bakersfield, California. Copies of the non-hazardous waste manifests are enclosed in Appendix G. A soil recycling certificate is enclosed in Appendix I.

7.0 LABORATORY ANALYSES

The analytical methods used to analyze the soil samples for this investigation were chosen based on the laboratory results of the analysis of the soil samples collected during the previous investigation. The laboratory analyses of the soil samples collected for the investigation were performed by Geochem Environmental Laboratories of Irvine, California.

All the soil samples collected from the excavation, the spoils pile and the imported backfill were discretely analyzed following EPA Method 418.1 for TRPH. The bottom samples and the samples from the excavation limits were also analyzed by EPA Method 8240 for volatile organic compounds (VOCs).

8.0 RESULTS OF INVESTIGATION

Results of the laboratory analyses for TRPH and VOC's are contained in Tables 1 and 2.

The laboratory reported up to 89,000 mg/kg of TRPH near the south wall of the excavation were the concrete piers were installed (this sample was collected as the bucket auger was advanced, therefore it represents a soil volume that was removed, not left in place). The majority of the samples however showed concentrations below 100 mg/kg.

The highest concentrations of VOC's were detected in soil samples EXB-28-5-25.5 which showed concentrations of Toluene (30 ug\kg), Ethylbenzene (43 ug\kg), and Total Xylenes (65 ug\kg), and sample EXWN-32-12-13 which showed Toluene (240 ug\kg), Ethylbenzene (27 ug\kg), and Total Xylenes (39 ug\kg). Chlorinated hydrocarbons were not reported in any of the soil samples analyzed by the laboratory.

9.0 DISCUSSION

The analytical results of the soil samples taken during the remediation show that the highest concentrations of TRPH were detected directly beneath or very close to the bottom of the former clarifier as indicated in Figures 3 and 4.

The excavation effort was guided in a manner that all the soil underneath and around the former clarifier area was removed within the limits previously established and agreed with Mr. Samuel Yu of the CRWQCB. These limits included excavating in all the areas around the clarifier that were not under the building or the high voltage electrical lines that run parallel to the building.

The laboratory analyses indicate that the highest concentrations of TRPH were detected in borehole No. 11 (see Figure 4). These soil samples (and all the soil samples collected from the boreholes) were collected at approximately the center of a 3-foot diameter borehole, and therefore represent soil concentrations that were removed as the bucket auger was advanced (not concentrations left in place).

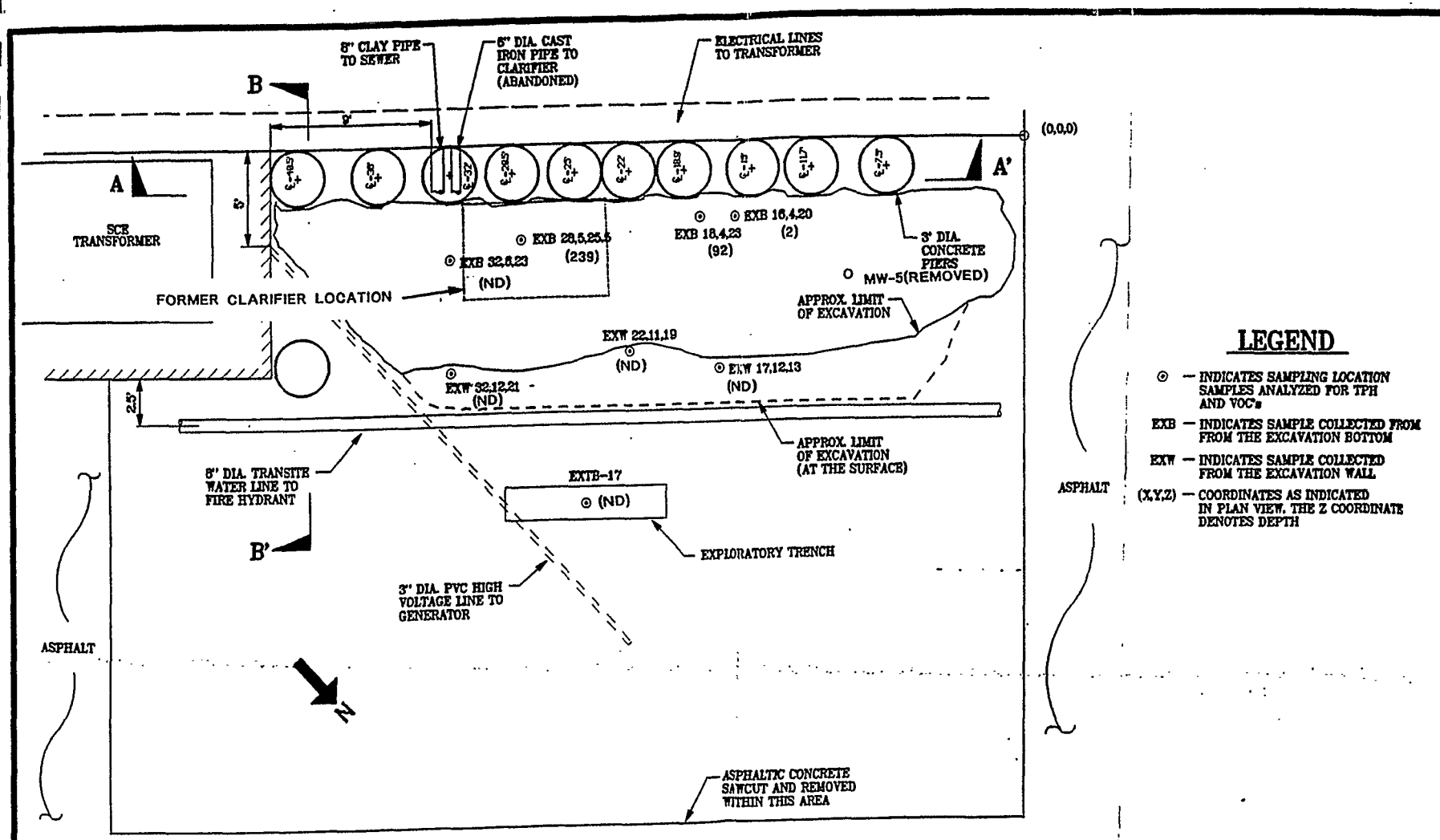
The results also indicate that although high concentrations of TRPH were detected in the boreholes in the immediate proximity of the clarifier along the south wall, these samples did not show VOC concentrations above the detection limit except for SW-25-25 which was taken below the groundwater table were VOC contamination is known to exist.

Although it is likely that some TRPH concentrations remains under the high voltage electrical lines and maybe under the building foundation, during the July 1992 soil investigation (Clayton 1992c), Clayton drilled two boreholes inside the building, BH-19 and BH-20, and no TRPH or VOCs were detected by EPA Methods 418.1 and 8240 respectively (see Appendix A, Figure 3 and Table 1 dated July 6, 1992).

10.0 CONCLUSIONS

Based on the laboratory analyses of the soil samples collected from the excavation bottom and walls, all the contaminated soil that was visually observed during the excavation was entirely removed from the former clarifier area. The exception to this could be some isolated contamination under the high voltage electrical lines.

The analytical results also show that although some concentrations of VOCs were found in some of the soil samples collected, none of the compounds identified are chlorinated hydrocarbons identified in the groundwater beneath the site.



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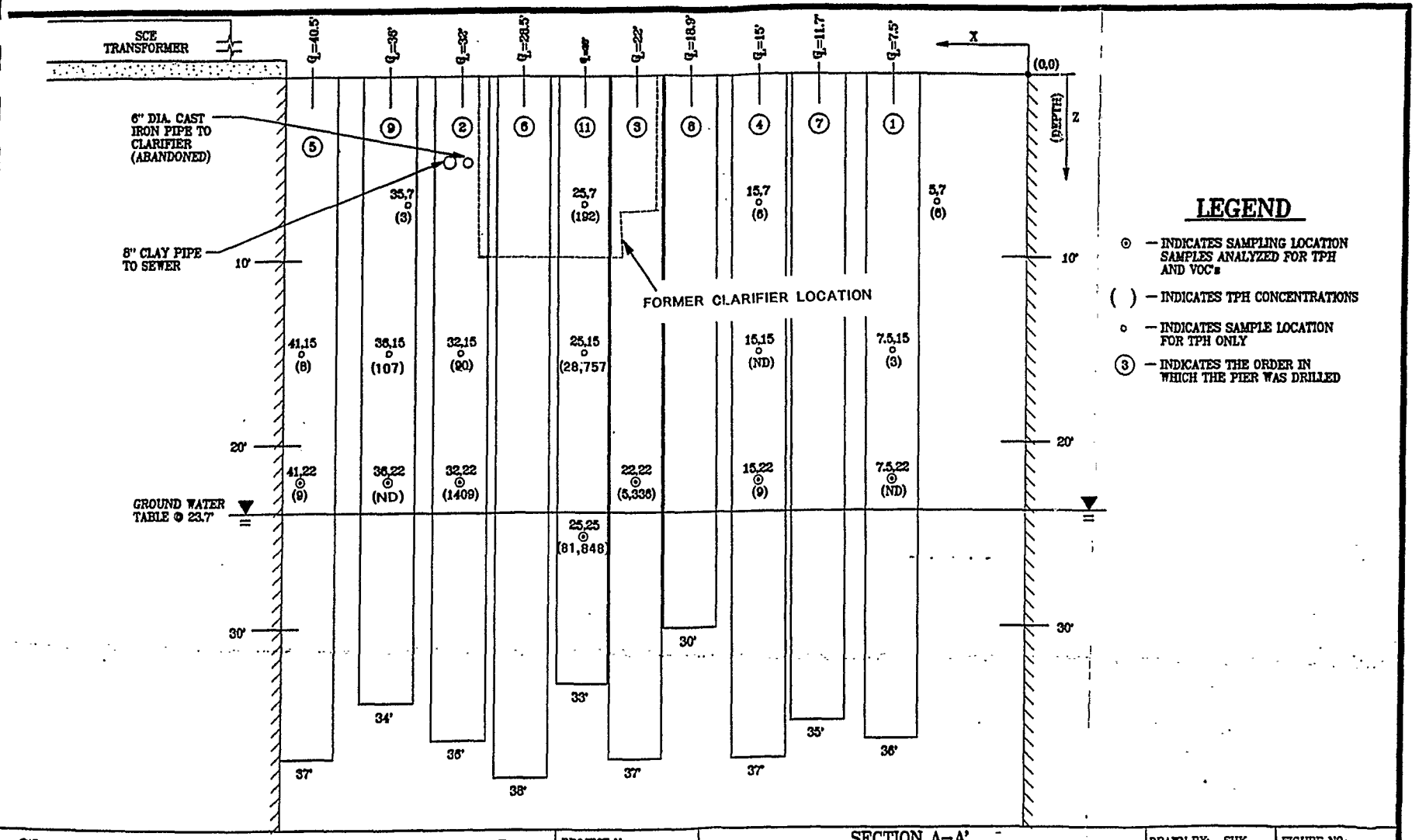
Cypress, California 90630

PROJECT No. : 50923.01	PLAN VIEW OF EXCAVATION		DRAWN BY: SHK	FIGURE NO.:
SCALE: 1" = 5'	STOODY COMPANY 16425 EAST GALE AVENUE INDUSTRY, CALIFORNIA		CHECKED BY: GV	3
			DATE: 11/93	



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Cypress, California 90630

PROJECT No.: 50923.01

SCALE: 1" = 5'

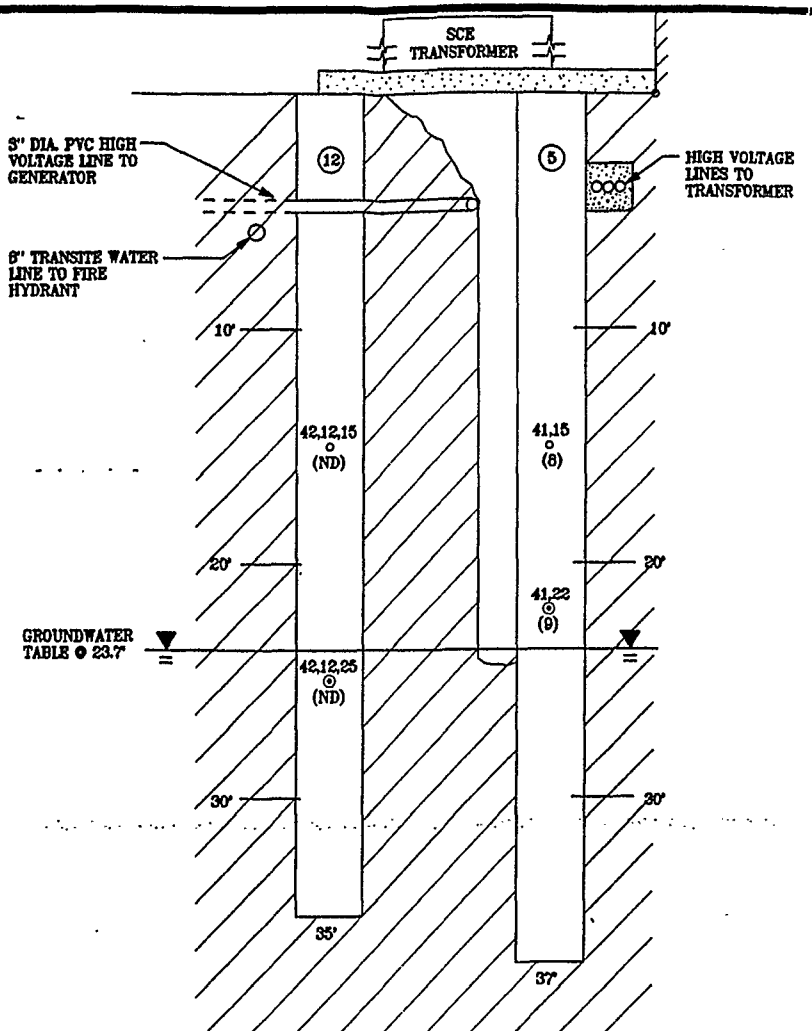
SECTION A-A'
EXCAVATION WALL AND PIER LOCATIONS
(SOUTH WALL)
STOODY COMPANY
16425 EAST GALE AVENUE
INDUSTRY, CALIFORNIA

DRAWN BY: SHK

CHECKED BY: GV

DATE: 11/93

FIGURE NO.: 4



LEGEND

⊙ — INDICATES SAMPLING LOCATION SAMPLES ANALYZED FOR TPH AND VOC's

( ) — INDICATES TPH CONCENTRATIONS

○ — INDICATES SAMPLE LOCATION FOR TPH ONLY

(3) — INDICATES THE ORDER IN WHICH THE PIER WAS DRILLED

(X,Y,Z) — COORDINATES AS INDICATED IN PLAN VIEW. THE Z COORDINATE DENOTES DEPTH

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PROJECT No.: 50923.01

SCALE: 1" = 5'

SECTION B-B'
EXCAVATION WALL AND PIER LOCATIONS
(EAST WALL)
STOODY COMPANY
16425 EAST GALE AVENUE
INDUSTRY, CALIFORNIA

DRAWN BY: SHK

CHECKED BY: GV

DATE: 11/93

FIGURE NO.: 5

Table 1
Summary of Soil Sampling Results for TRPH
by EPA Method 418.1
at
Stoody Facility
Industry, California
Clayton Project No. 41184.00

Sample Location	Soil Sample I.D.	Depth (feet)	TRPH (mg/kg)	Date Sampled
South Wall	SW-25-15	15	28,757 ✓	10/28/93
	SW-25-25[1]	25	~~81,848~~ 81498	10/28/93
	SW-5-7[2]	7	6 ✓	10/~~27~~26/93
	SW-7.5-15	15	3 ✓	10/27/93
	SW-15-7	7	6 ✓	10/~~27~~26/93
	SW-7.5-22[1]	22	ND(1) ✓	10/27/93
	SW-25-7	7	192 ✓	10/~~27~~26/93
	SW-35-7	7	3 ✓	10/~~27~~26/93
	SW-32-22(A)[1]	22	1,409 ✓	10/27/93
	SW-32-15	15	90 ✓	10/27/93
	SW-22-22[1]	22	5,336 ✓	10/27/93

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Table 1 (continued)
Soil Sampling Results for TRPH
by EPA Method 418.1
at
Stoody Facility
Industry, California
Clayton Project No. 41184.00

Sample Location	Soil Sample I.D.	Depth (feet)	TRPH (mg/kg)	Date Sampled
South Wall	SW-15-15	15	ND(1)	10/27/93
	SW-15-22[1]	22	9	10/27/93
	SW-41-15	15	8	10/27/93
	SW-41-22[1]	22	9	10/27/93
	SW-36-15	15	107	10/27/93
	SW-36-22A	22	ND(1)	10/27/93
	SW-41-22A	22	ND(1)	10/27/93
East Wall	EW-42-12-15	15	ND(1)	10/27/93
	EW-42-112-25[1]	25	ND(1)	10/27/93
Spoils Pile	SP-1	NA	345	11/5/93
	SP-2	NA	31	11/5/93

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Table 1 (continued)
Soil Sampling Results for TRPH
by EPA Method 418.1
at
Stoody Facility
Industry, California
Clayton Project No. 41184.00

Sample Location	Soil Sample I.D.	Depth (feet)	TRPH (mg/kg)	Date Sampled
Spoils Pile	SP-3	NA	9	11/5/93
	SP-4	NA	6	11/5/93
	SP-5	NA	73	11/5/93
	SP-6	NA	ND(1)	11/5/93
	SP-7	NA	641	11/5/93
	SP-8	NA	ND(1)	11/5/93
	SP-9	NA	ND(1)	11/5/93
Exploratory Trench	EXT-17	17	ND(1)	11/3/93
North Wall	EXWN-32-12-21[1]	21	ND(1) ✓	11/4/93
	EXWN-22-11-19[1]	19	ND(1) ✓	11/4/93
	EXWN-17-12-13[1]	13	ND(1) ✓	11/4/93

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Table 1 (continued)
Soil Sampling Results for TRPH
by EPA Method 418.1
at
Stoody Facility
Industry, California
Clayton Project No. 41184.00

Sample Location	Soil Sample I.D.	Depth (feet)	TRPH (mg/kg)	Date Sampled
North Wall	EXWN-27-11-22[1]	22	ND(1)	11/4/93
Excavation Bottom	EXB-32-6-23[1]	23	ND(1)	11/4/93
	EXB-16-4-20[1]	20	2	11/4/93
	EXB-18-4-23[1]	23	92	11/4/93
	EXB-28-5-25.5[1]	25.5	239	11/4/93
Backfill	1	NA	ND(1)	11/19/93
	2	NA	ND(1)	11/19/93
	3	NA	ND(1)	11/19/93

NA: Not applicable

ND(1): Not detected at or above 1 mg/kg

(1) Indicates that sample was also analyzed by EPA Method 8015 modified for Diesel.

(2) Indicates that sample was also analyzed by EPA Method 8240 for volatile organic compounds.

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Table 2
Summary of Positive Soil Sampling Results for Volatile Organic Compounds
by EPA Method 8240
at
Stoody Facility
Industry, California
Clayton Project No. 41184.00

Location	Sample I.D.	Depth (feet)	EPA Method 8240			
			Toluene (ug/kg)	Ethyl-Benzene (ug/kg)	O&P Xylene (ug/kg)	M-Xylene (ug/kg)
South Wall	SW-25-25	25	35	ND(5)	6	ND(5)
	SW7.5-22A	22	ND(5)	ND(5)	ND(5)(10)	ND(5)
	SW15-22A	22	ND(5)	ND(5)	ND(5)	ND(5)
	SW22-22A	22	ND(5)	ND(5)	ND(5)	ND(5)
	SW32-22A	22	ND(5)	ND(5)	ND(5)	ND(5)
	SW41-22A	22	ND(5)	ND(5)	ND(5)	ND(5)
East Wall	EW-42-12-25	25	ND(5)	ND(5)	ND(5)	ND(5)
	EXE-28-5-25.5		30	43	57	8
	EXE-16-4-20		22	31	40	5
	EXE-18-4-23		5.4	7.1	5.9	ND(5)
	EXE 32-6-23		ND(5)	ND	ND(10)	ND
	EXW N-17-11-13		240	27	39	ND
	EXW N-22-11-19		21	29	32	ND
	EXW N-27-11-22		24	35	45	5.6
	EXWN-32-12-21		23	32	41	5

DNRS on 2nd page

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Table 2
Summary of Soil Sampling Results for Volatile Organic Compounds
by EPA Method 8240
at
Stoody Facility
Industry, California
Clayton Project No. 41184.00

Location	Sample I.D.	Depth (feet)	EPA Method 8240			
			Toluene (ug/kg)	Ethyl-Benzene (ug/kg)	O&P Xylene (ug/kg)	M-Xylene (ug/kg)
South Wall	SW-25-22	22	35	ND(5)	6	ND(5)
	SW7.5-22A	22	ND(5)	ND(5)	ND(5)	ND(5)
	SW15-22A	22	ND(5)	ND(5)	ND(5)	ND(5)
	SW22-22A	22	ND(5)	ND(5)	ND(5)	ND(5)
	SW32-22A	22	ND(5)	ND(5)	ND(5)	ND(5)
	SW41-22A	22	ND(5)	ND(5)	ND(5)	ND(5)
East Wall	EW-42-12-25	25	ND(5)	ND(5)	ND(5)	ND(5)

REFERENCE [12]

FIRST QUARTER GROUNDWATER MONITORING REPORT OF 1994
CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
23 MAY 1994

Pacific Operations
Los Angeles

5785 Corporate Avenue
Suite 150
Cypress, CA 90630
(714) 229-4806
Fax (714) 229-4805

Clayton
ENVIRONMENTAL
CONSULTANTS

First Quarter Groundwater Monitoring of 1994 at Stoody Company Facility Industry, California for Thermadyne Holdings Corporation St. Louis, Missouri

Clayton Project No. 50923.03

May 23, 1994

the workplan for implementation on January 11, 1989.

2.0 BACKGROUND

Clayton has performed subsurface investigations and quarterly groundwater monitoring at the Stoody Company facility since 1989. The Stoody Company ceased manufacturing welding products at the subject site in November 1991. Since that time the facility has been partially vacant and partially used as a warehouse.

The subject report presents the groundwater sampling results of the last quarterly sampling event conducted on March 4, 1994 as well as a historical summary of the concentrations for three key compounds: Tetracholroethene (PCE), Trichloroethene (TCE) and 1,1-Dichloroethene (DCE), as they were detected above the MCLs since the groundwater investigation at the site began in 1989.

The historical summary of all the groundwater sampling events are presented on this report because this report represents the final quarterly report for the Stoody facility pending a response to the request for closure presented by Clayton Environmental on behalf of the Stoody Company.

The subject closure was proposed by Clayton Environmental in a meeting conducted on April 26, 1994 attended by Mr. Eric Nupin and Ms. Rueen-Fang Wang from the CRWQCB, Mr Gustavo Valdivia and Ms. Kathleen Williams from Clayton, and Mr. Martin Casper and Ms. Stephanie Josephson representing the Stoody Company. Clayton is submitting the request for final closure in a letter attached to this report.

3.0 MONITORING ACTIVITIES

The following sections present a description of field work and laboratory analyses that were used to meet the objectives of the quarterly groundwater program. Field activities for the first quarter 1994 sampling event were conducted on March 4, 1994.

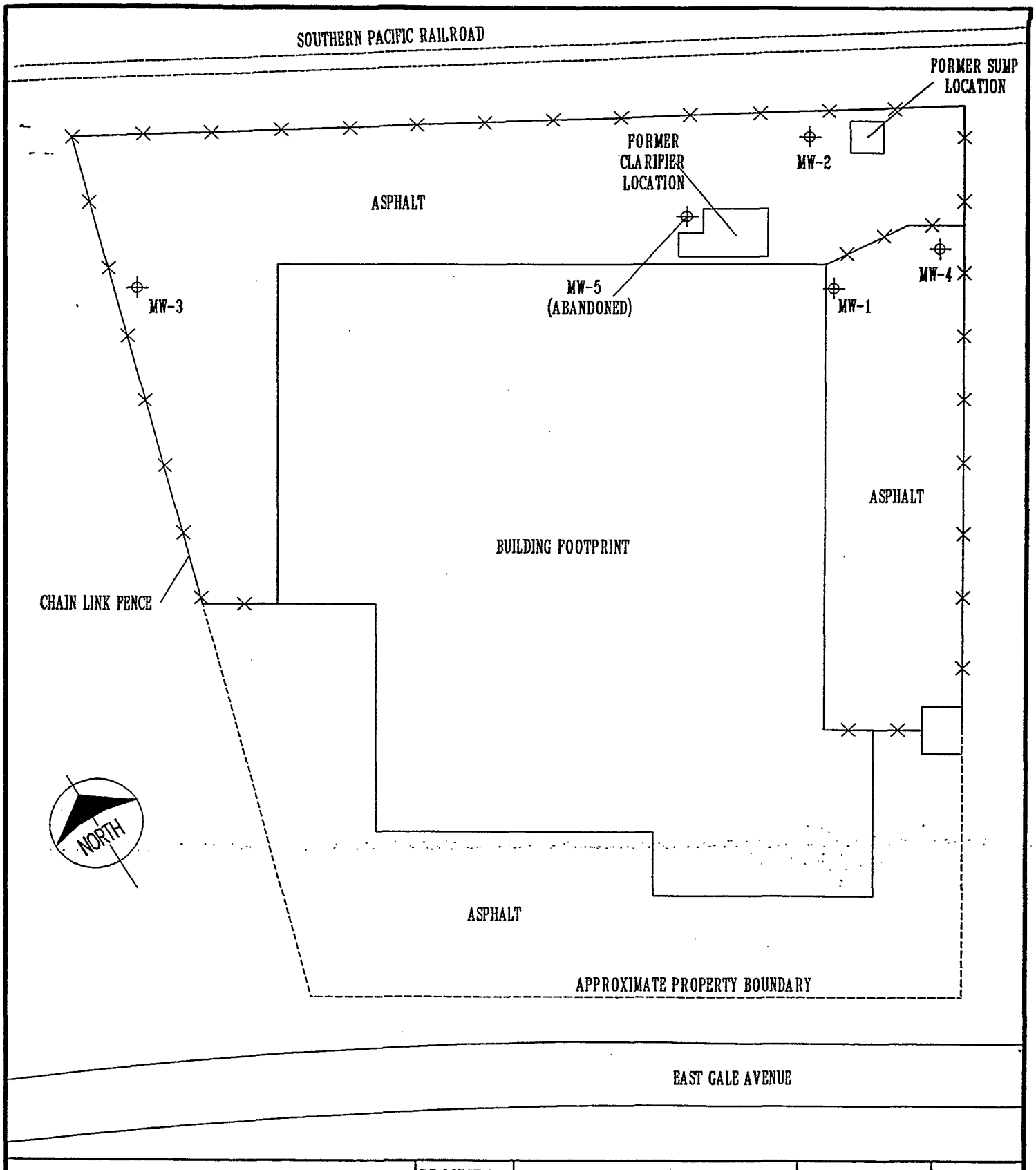
3.1 FIELD WORK

3.1.1 Groundwater Measurements

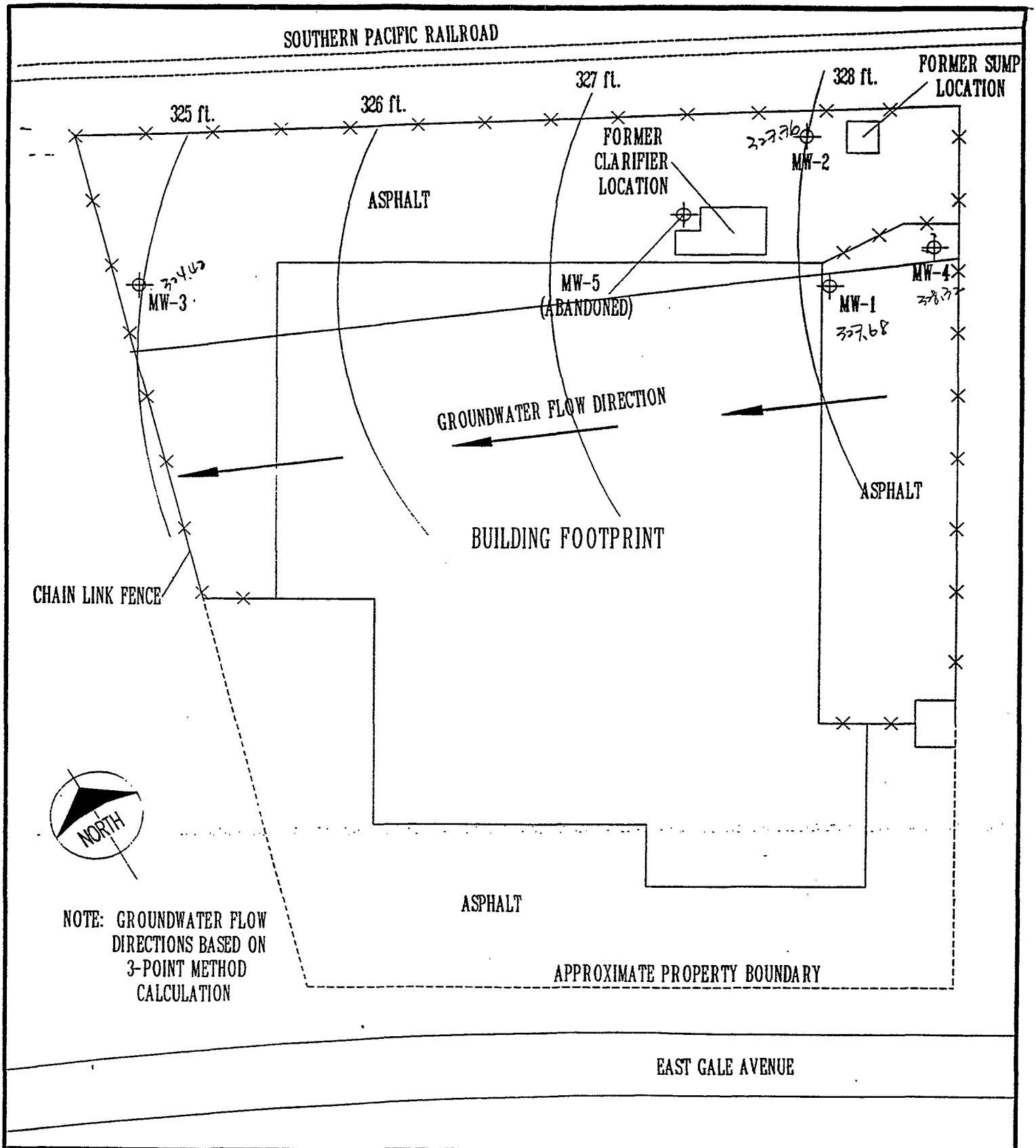
Clayton measured and recorded the depth to groundwater in each monitoring well once during the first quarter 1994. The depth to groundwater, was measured and recorded on a groundwater sampling form. The groundwater sampling forms are in Appendix A.

3.1.2 Groundwater Purging and Sampling

Clayton purged and sampled the 4 existing groundwater monitoring wells on March 7, 1994. As it was explained in the previous groundwater quarterly report, monitoring well MW-5 was removed during the remediation activities conducted in



CLAYTON ENVIRONMENTAL CONSULTANTS, INC. 5785 CORPORATE AVENUE, SUITE 150 CYPRESS, CALIFORNIA 90630	PROJECT NO: 50923.02 SCALE: NTS	SITE LOCATION MAP THE STOODY COMPANY 16425 E. GALE AVENUE CITY OF INDUSTRY, CALIFORNIA	DRAWN BY: LWW CHECKED BY: GV DATE: 1/94	FIGURE 2 50923-2



CLAYTON ENVIRONMENTAL CONSULTANTS, INC. 5785 CORPORATE AVENUE, SUITE 150 CYPRESS, CALIFORNIA 90630	PROJECT NO: 50923.02 SCALE: NTS	GROUNDWATER FLOW DIRECTION MAP THERMADYNE INDUSTRIES STOODY COMPANY FACILITY CITY OF INDUSTRY, CALIFORNIA	DRAWN BY: LWW CHECKED BY: GV DATE: 1/94	FIGURE 3 50923-3

Table 2
Groundwater Monitoring Well Data
at
Stoody Company
City of Industry, California
Clayton Project No. 50923.03
Measurement Date: March 4, 1994

Elevations (feet)				
Monitoring Well	**MW-1**	**MW-2**	**MW-3**	**MW-4**
California Coordinates Northerly	4 115 352.91	4 115 446.16	4 115 618.47	4 115 317.93
California Coordinates Easterly	4 304 877.74	4 305 930.76	4 304 433.56	4 305 006.96
Elevation at top of well casing (MSL)	352.18	351.12	349.34	353.55
Date of Measurements	3/4/94	3/4/94	3/4/94	3/4/94
Total depth of well from top of casing	47.70	46.40	46.02	51.23
Depth to water from top of casing	24.50	23.36	24.92	25.23
Elevation of water (MSL)	327.68	327.76	324.42	328.32

MSL: Elevation above Mean Sea Level

W:\STOODY\50923-Q1.TBS

Table 5
Summary Table of Results for EPA Method 524.2 (Concentrations in ug/L)
for Volatile Organic Compounds
at
Stoody Company
City of Industry, California
Clayton Project No. 50923.03

Monitoring Well MW-1

COMPOUND	Sampling Quarter	Sampling Date	Concentration ug/L
1,1-Dichloroethene (DCE) MCL= 6 ug/L	1st - 89	2/2/89	31
	2nd - 89	8/2/89	27
	3rd - 89	10/16/89	32
	1st - 90	4/24/90	25
	NO SAMPLING PERFORMED		
	1st - 91	12/27/90	18
	2nd - 91	5/14/91	14
	3rd - 91	8/14/91	25
	4th - 91	11/1/91	23
	1st - 92	3/24/92	21
	2nd - 92	7/24/92	15
	3rd - 92	10/28/92	20
	4th - 92	12/11/92	18
	NO SAMPLING PERFORMED		
	3rd - 93	9/10/93	5.5
	4th - 93	12/20/93	8.1
	1st - 94	3/4/94	19
Tetrachloroethene (PCE) MCL = 5 ug/L	1st - 89	2/2/89	190
	2nd - 89	8/2/89	49
	3rd - 89	10/16/89	120
	1st - 90	4/24/90	120

Table 5 (continued)
Monitoring Well MW-1

COMPOUND	Sampling Quarter	Sampling Date	Concentration ug/L
Tetrachloroethene	NO SAMPLING PERFORMED		
(PCE)	1st - 91	12/27/90	130
MCL = 5 ug/L	2nd - 91	5/14/91	100
	3rd - 91	8/14/91	200
	4th - 91	11/1/91	170
	1st - 92	3/24/92	200
	2nd - 92	7/24/92	170
	3rd - 92	10/28/92	160
	4th - 92	12/11/92	240
	NO SAMPLING PERFORMED		
	3rd - 93	9/10/93	56
	4th - 93	12/20/93	64
	1st - 94	3/4/94	67
1,1,1-Trichloethane	1st - 89	2/2/89	ND
(1,1,1-TCA)	2nd - 89	8/2/89	ND
MCL = 200 ug/L	3rd - 89	10/16/89	3
	1st - 90	4/24/90	2.5
	NO SAMPLING PERFORMED		
	1st - 91	12/27/90	1.9
	2nd - 91	5/14/91	ND
	3rd - 91	8/14/91	ND
	4th - 91	11/1/91	ND
	1st - 92	3/24/92	ND
	2nd - 92	7/24/92	1.4
	3rd - 92	10/28/92	1.7

Table 5 (continued)
Monitoring Well MW-1

COMPOUND	Sampling Quarter	Sampling Date	Concentration ug/L
1,1,1-Trichloethane (1,1,1-TCA) MCL = 200 ug/L	4th - 92	12/11/92	ND
	NO SAMPLING PERFORMED		
	3rd - 93	9/10/93	ND
	4th - 93	12/20/93	0.5
	1st - 94	3/4/94	1.7
Trichloroethene (TCE) MCL = 5 ug/L	1st - 89	2/2/89	130
	2nd - 89	8/2/89	59
	3rd - 89	10/16/89	73
	1st - 90	4/24/90	50
	NO SAMPLING PERFORMED		
	1st - 91	12/27/90	50
	2nd - 91	5/14/91	ND
	3rd - 91	8/14/91	52
	4th - 91	11/1/91	58
	1st - 92	3/24/92	50
	2nd - 92	7/24/92	37
	3rd - 92	10/28/92	41
	4th - 92	12/11/92	46
	NO SAMPLING PERFORMED		
	3rd - 93	9/10/93	25
	4th - 93	12/20/93	29
	1st - 94	3/4/94	35

Table 5 (continued)
Summary Table of Results for EPA Method 524.2 (Concentrations in ug/L)
for Volatile Organic Compounds
at
Stoody Company
City of Industry, California
Clayton Project No. 50923.03

Monitoring Well MW-2

COMPOUND	Sampling Quarter	Sampling Date	Concentration ug/L
1,1 Dichloroethene	1st - 89	2/2/89	61
(1,1-DCE)	2nd - 89	8/2/89	19
MCL = 6 ug/L	3rd - 89	10/16/89	18
	1st - 90	4/24/90	19
	NO SAMPLING PERFORMED		
	1st - 91	12/27/90	14
	2nd - 91	5/14/91	13
	3rd - 91	8/14/91	20
	4th - 91	11/1/91	17
	1st - 92	3/24/92	12
	2nd - 92	7/24/92	9.3
	3rd - 92	10/28/92	12
	4th - 92	12/11/92	13
	NO SAMPLING PERFORMED		
	3rd - 93	9/10/93	1.2
	4th - 93	12/20/93	8.5
	1st -94	3/4/94	4.3
Tetrachloroethene	1st - 89	2/2/89	160
(PCE)	2nd - 89	8/2/89	43
MCL = 5 ug/L	3rd - 89	10/16/89	120
	1st - 90	4/24/90	170

Table 5 (continued)
Monitoring Well MW-2

COMPOUND	Sampling Quarter	Sampling Date	Concentration ug/L
Tetrachloroethene	NO SAMPLING PERFORMED		
(PCE)	1st - 91	12/27/90	140
MCL = 5 ug/L	2nd - 91	5/14/91	140
	3rd - 91	8/14/91	210
	4th - 91	11/1/91	170
	1st - 92	3/24/92	210
	2nd - 92	7/24/92	220
	3rd - 92	10/28/92	180
	4th - 92	12/11/92	280
	NO SAMPLING PERFORMED		
	3rd - 93	9/10/93	96
	4th - 93	12/20/93	170
	1st -94	3/4/94	150
1,1,1-Trichloroethane	1st - 89	2/2/89	ND
(1,1,1-TCA)	2nd - 89	8/2/89	ND
MCL = 200 ug/L	3rd - 89	10/16/89	ND
	1st - 90	4/24/90	3.3
	NO SAMPLING PERFORMED		
	1st - 91	12/27/90	2.5
	2nd - 91	5/14/91	ND
	3rd - 91	8/14/91	4.7
	4th - 91	11/1/91	3.1
	1st - 92	3/24/92	3.5
	2nd - 92	7/24/92	2.9
	3rd - 92	10/28/92	3.2

Table 5 (continued)
Monitoring Well MW-2

COMPOUND	Sampling Quarter	Sampling Date	Concentration ug/L
	4th - 92	12/11/92	3.3
1,1,1-Trichloroethane	NO SAMPLING PERFORMED		
(1,1,1-TCA)	3rd - 93	9/10/93	1.2
MCL = 200 ug/L	4th - 93	12/20/93	1.5
	1st -94	3/4/94	0.7
Trichloroethene	1st - 89	2/2/89	130
(TCE)	2nd - 89	8/2/89	46
MCL = 5.0 ug/L	3rd - 89	10/16/89	37
	1st - 90	4/24/90	44
	NO SAMPLING PERFORMED		
	1st - 91	12/27/90	35
	2nd - 91	5/14/91	ND
	3rd - 91	8/14/91	41
	4th - 91	11/1/91	44
	1st - 92	3/24/92	31
	2nd - 92	7/24/92	26
	3rd - 92	10/28/92	30
	4th - 92	12/11/92	35
	NO SAMPLING PERFORMED		
	3rd - 93	9/10/93	4.7
	4th - 93	12/20/93	19
	1st -94	3/4/94	9.2

Table 5
Summary Table of Results for EPA Method 524.2 (Concentrations in ug/L) for Volatile Organic Compounds at Stoody Company City of Industry, California Clayton Project No. 50923.03

Monitoring Well MW-3

COMPOUND	Sampling Quarter	Sampling Date	Concentration
1,1-Dichloroethene (1,1-DCE) MCL = 6 ug/L	1st - 89	2/2/89	ND
	2nd - 89	8/2/89	16
	3rd - 89	10/16/89	6
	1st - 90	4/24/90	21
	NO SAMPLING PERFORMED		
	1st - 91	12/27/90	25
	2nd - 91	5/14/91	49
	3rd - 91	8/14/91	56
	4th - 91	11/1/91	54
	1st - 92	3/24/92	54
	2nd - 92	7/24/92	30
	3rd - 92	10/28/92	25
	4th - 92	12/11/92	44
	NO SAMPLING PERFORMED		
	3rd - 93	9/10/93/	0.7
	4th - 93	12/20/93	40
	1st - 94	3/4/94	0.9
Tetrachloroethene (PCE) MCL = 5 ug/L	1st - 89	2/2/89	64
	2nd - 89	8/2/89	39
	3rd - 89	10/16/89	36
	1st - 90	4/24/90	55

Table 5 (continued)
Monitoring Well MW-3

COMPOUND	Sampling Quarter	Sampling Date	Concentration
Tetrachloroethene	NO SAMPLING PERFORMED		
(PCE)	1st - 91	12/27/90	55
MCL = 5 ug/L	2nd - 91	5/14/91	66
	3rd - 91	8/14/91	77
	4th - 91	11/1/91	76
	1st - 92	3/24/92	73
	2nd - 92	7/24/92	34
	3rd - 92	10/28/92	41
	4th - 92	12/11/92	88
	NO SAMPLING PERFORMED		
	3rd - 93	9/10/93	17
	4th - 93	12/20/93	69
	1st - 94	3/4/94	9.3
1,1,1-Trichloroethane	1st - 89	2/2/89	ND
(1,1,1-TCA)	2nd - 89	8/2/89	ND
MCL = 200 ug/L	3rd - 89	10/16/89	ND
	1st - 90	4/26/90	2.5
	NO SAMPLING PERFORMED		
	1st - 91	12/27/90	5.1
	2nd - 91	5/14/91	7.6
	3rd - 91	8/14/91	7.5
	4th - 91	11/1/91	8.7
	1st - 92	3/24/92	5.9
1,1,1-Trichloroethane	2nd - 92	7/24/92	2.4

Table 5 (continued)
Monitoring Well MW-3

COMPOUND	Sampling Quarter	Sampling Date	Concentration
(1,1,1-TCA) MCL = 200 ug/L	3rd - 92	10/28/92	2.4
	4th - 92	12/11/92	4.3
	NO SAMPLING PERFORMED		
	3rd - 93	9/10/93	ND
	4th - 93	12/20/93	2.5
	1st - 94	3/4/94	
Trichloroethene (TCE) MCL = 5 ug/L	1st - 89	2/2/89	25
	2nd - 89	8/2/89	42
	3rd - 89	10/16/89	21
	1st - 90	4/26/90	42
	NO SAMPLING PERFORMED		
	1st - 91	12/27/90	65
	2nd - 91	5/14/91	77
	3rd - 91	8/14/91	92
	4th - 91	11/1/91	96
	1st - 92	3/24/92	96
	2nd - 92	7/24/92	49
	3rd - 92	10/28/92	52
	4th - 92	12/11/92	95
	NO SAMPLING PERFORMED		
	3rd - 93	9/10/93	2.5
	4th - 93	12/20/93	63
	1st - 94	3/4/94	35

Table 5 (continued)
Summary Table of Results for EPA Method 524.2 (Concentrations in ug/L)
for Volatile Organic Compounds
at
Stoody Company
City of Industry, California
Clayton Project No. 50923.03

Monitoring Well MW-4

COMPOUND	Sampling Quarter	Sampling Date	Concentration ug/L
1,1-Dichloroethene	1st - 89	2/2/89	11
(1,1-DCE)	2nd - 89	8/2/89	10
6 ug/L	3rd - 89	10/16/89	22
	1st - 90	4/24/90	27
	NO SAMPLING PERFORMED		
	1st - 91	12/27/90	11
	2nd - 91	5/14/91	12
	3rd - 91	8/14/91	23
	4th - 91	11/1/91	21
	1st - 92	3/24/92	15
	2nd - 92	7/24/92	17
	3rd - 92	10/28/92	17
	4th - 92	12/11/92	15
	NO SAMPLING PERFORMED		
	3rd - 93	9/10/93	8.6
	4th - 93	12/20/93	17
	1st - 94	3/4/94	14
Tetrachloroethene	1st - 89	2/2/89	55
(PCE)	2nd - 89	8/2/89	36
MCL = 5 ug/L	3rd - 89	10/16/89	120

Table 5 (continued)
Monitoring Well MW-4

COMPOUND	Sampling Quarter	Sampling Date	Concentration ug/L
Tetrachloroethene	1st - 90	4/24/90	120
(PCE)	NO SAMPLING PERFORMED		
MCL = 5 ug/L	1st - 91	12/27/90	100
	2nd - 91	5/14/91	92
	3rd - 91	8/14/91	180
	4th - 91	11/1/91	170
	1st - 92	3/24/92	160
	2nd - 92	7/24/92	210
	3rd - 92	10/28/92	160
	4th - 92	12/11/92	200
	NO SAMPLING PERFORMED		
	3rd - 93	9/10/93	120
	4th - 93	12/20/93	210
	1st - 94	3/4/94	190
1,1,1-Trichloroethane	1st - 89	2/2/89(3/30/89	ND
(1,1,1-TCA)	2nd - 89	8/2/89	ND
MCL = 200 ug/L	3rd - 89	10/16/89	ND
	1st - 90	4/24/90	3.1
	NO SAMPLING PERFORMED		
	1st - 91	12/27/90	1.4
	2nd - 91	5/14/91	1.1
	3rd - 91	8/14/91	ND
	4th - 91	11/1/91	ND
	1st - 92	3/24/92	ND
	2nd - 92	7/24/92	1.8

Table 5 (continued)
Monitoring Well MW-4

COMPOUND	Sampling Quarter	Sampling Date	Concentration ug/L
1,1,1-Trichloroethane	3rd - 92	10/28/92	1.8
(1,1,1-TCA)	4th - 92	12/11/92	ND
MCL = 200 ug/L	NO SAMPLING PERFORMED		
	3rd - 93	9/10/93	1.5
	4th - 93	12/20/93	1.8
	1st - 94	3/4/94	1.2
Trichloroethene	1st - 89	2/2/89(3/30/89)	44
(TCE)	2nd - 89	8/2/89	26
MCL = 5 ug/L	3rd - 89	10/16/89	52
	1st - 90	4/24/90	55
	NO SAMPLING PERFORMED		
	1st - 91	12/27/90	32
	2nd - 91	5/14/91	30
	3rd - 91	8/14/91	54
	4th - 91	11/1/91	ND
	1st - 92	3/24/92	41
	2nd - 92	7/24/92	41
	3rd - 92	10/28/92	40
	4th - 92	12/11/92	44
	NO SAMPLING PERFORMED		
	3rd - 93	9/10/93	21
	4th - 93	12/20/93	39
	1st - 94	3/4/94	29

Table 5 (continued)
Summary Table of Results for EPA Method 524.2 (Concentrations in ug/L)
for Volatile Organic Compounds
at
Stoody Company
City of Industry, California
Clayton Project No. 50923.03

Monitoring Well MW-5

COMPOUND	Sampling Quarter	Sampling Date	Concentrartion ug/L
1,1-Dichloroethene (1,1-DCE) MCL = 6 ug/L	1st - 91	2/13/91	16
	2nd - 91	5/14/91	16
	3rd - 91	8/14/91	23
	4th - 91	11/1/91	20
	1st - 92	3/24/92	7.7
	2nd -92	7/24/92	5.4
	3rd - 92	10/28/92	8.2
	4th - 92	12/11/92	9.4
	NO SAMPLING PERFORMED		
	3rd - 93	9/10/93	5.9
	4th - 93	10/26/93	Well abandoned
Tetrachloroethene (PCE) MCL = 5 ug/L	1st - 91	2/13/91	100
	2nd - 91	5/14/91	130
	3rd - 91	8/14/91	180
	4th - 91	11/1/91	160
	1st - 92	3/24/92	98
	2nd -92	7/24/92	120
	3rd - 92	10/28/92	110
	4th - 92	12/11/92	170
	NO SAMPLING PERFORMED		

COMPOUND	Sampling Quarter	Sampling Date	Concentrartion ug/L
Tetrachloroethene	3rd - 93	9/10/93	120
(PCE)	4th - 93	10/26/93	Well abandoned
1,1,1-Trichloroethane	1st - 91	2/13/91	1.8
(1,1,1-TCA)	2nd - 91	5/14/91	ND
MCL = 200 ug/L	3rd - 91	8/14/91	ND
	4th - 91	11/1/91	ND
	1st - 92	3/24/92	1.1
	2nd -92	7/24/92	1.0
	3rd - 92	10/28/92	1.2
	4th - 92	12/11/92	ND
	NO SAMPLING PERFORMED		
	3rd - 93	9/10/93	1.4
	4th - 93	10/26/93	Well abandoned
Trichloroethene	1st - 91	2/13/91	34
(TCE)	2nd - 91	5/14/91	ND
MCL = 5 ug/L	3rd - 91	8/14/91	50
	4th - 91	11/1/91	50
	1st - 92	3/24/92	23
	2nd -92	7/24/92	23
	3rd - 92	10/28/92	2.8
	4th - 92	12/11/92	31
	NO SAMPLING PERFORMED		
	3rd - 93	9/10/93	20
	4th - 93	10/26/93	Well abandoned

Table 5 (continued)
Summary Table of Results for EPA Method 524.2 (Concentrations in ug/L) for Volatile Organic Compounds at Stoody Company City of Industry, California Clayton Project No. 50923.03

Monitoring Well MW-5

COMPOUND	Sampling Quarter	Sampling Date	Concentrartion ug/L
1,1-Dichloroethene (1,1-DCE) MCL = 6 ug/L	1st - 91	2/13/91	16
	2nd - 91	5/14/91	16
	3rd - 91	8/14/91	23
	4th - 91	11/1/91	20
	1st - 92	3/24/92	7.7
	2nd -92	7/24/92	5.4
	3rd - 92	10/28/92	8.2
	4th - 92	12/11/92	9.4
	NO SAMPLING PERFORMED		
	3rd - 93	9/10/93	5.9
	4th - 93	10/26/93	Well abandoned
Tetrachloroethene (PCE) MCL = 5 ug/L	1st - 91	2/13/91	100
	2nd - 91	5/14/91	130
	3rd - 91	8/14/91	180
	4th - 91	11/1/91	160
	1st - 92	3/24/92	98
	2nd -92	7/24/92	120
	3rd - 92	10/28/92	110
	4th - 92	12/11/92	170

Table 5 (continued)
Monitoring Well MW-5

COMPOUND	Sampling Quarter	Sampling Date	Concentrartion ug/L
Tetrachloroethene	NO SAMPLING PERFORMED		
(PCE)	3rd - 93	9/10/93	120
	4th - 93	10/26/93	Well abandoned
1,1,1-Trichloroethane	1st - 91	2/13/91	1.8
(1,1,1-TCA)	2nd - 91	5/14/91	ND
MCL = 200 ug/L	3rd - 91	8/14/91	ND
	4th - 91	11/1/91	ND
	1st - 92	3/24/92	1.1
	2nd -92	7/24/92	1.0
	3rd - 92	10/28/92	1.2
	4th - 92	12/11/92	ND
	NO SAMPLING PERFORMED		
	3rd - 93	9/10/93	1.4
	4th - 93	10/26/93	Well abandoned
Trichloroethene	1st - 91	2/13/91	34
(TCE)	2nd - 91	5/14/91	ND
MCL = 5 ug/L	3rd - 91	8/14/91	50
	4th - 91	11/1/91	50
	1st - 92	3/24/92	23
	2nd -92	7/24/92	23
	3rd - 92	10/28/92	2.8
	4th - 92	12/11/92	31
	NO SAMPLING PERFORMED		
	3rd - 93	9/10/93	20

REFERENCE [13]

LETTER TO THERMADYNE HOLDINGS CORPORATION
REGARDING "NO FURTHER ACTION" AT THE STOODY SITE
RWQCB
31 JANUARY 1995

STATE OF CALIFORNIA—ENVIRONMENTAL PROTECTION AGENCY

PETE WILSON, Governor

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION
101 CENTRE PLAZA DRIVE
MONTEREY PARK, CA 91754-2156
(213) 266-7500
FAX: (213) 266-7600

January 31, 1995

Martin S. Casper
THERMADYNE HOLDINGS CORPORATION
101 South Hanley Road
St. Louis, Missouri 63105

WELL INVESTIGATION PROGRAM - NO FURTHER ACTION, STOODY COMPANY, 16425 EAST GALE AVE., CITY OF INDUSTRY, CA (FILE NO. 105.0263)

We are in receipt of five "Quarterly Groundwater Monitoring Reports," dated May 3, 1993 (two reports), December 28, 1993, February 10, 1994, and May 23, 1994, and a "Closure and Soil Remediation Report," dated May 23, 1994, prepared by your consultant, Clayton Environmental Consultants. These submissions are in general compliance with an approved work plan dated October 19, 1988, an approved remedial action plan dated September 14, 1992, with two addenda dated November 17, 1992, requirements specified in our letter dated December 2, 1992, and discussions during a meeting among your consultants, yourself, and Board staff on April 26, 1994.

Quarterly Groundwater Monitoring Reports
These five reports present quarterly ground water sampling results for the following monitoring events: the third and fourth quarters of 1992, the third and fourth quarters of 1993, and the first quarter of 1994. The 1994 quarterly monitoring report also includes a historical summary of all the ground water sampling results. Upon review of the reports, we have the following comments:

1. Detected VOC concentrations during the latest ground water monitoring events are similar to previous sampling results, ranging from 9.3-280 µg/l PCE, 2.5-95 µg/l TCE, 0.7-44 µg/l 1,1-DCE, <0.5-4.3 µg/l 1,1,1-TCA, <0.5-0.9 µg/l carbon tetrachloride, and <0.5-0.66 µg/l 1,2-DCA. Measurements of ground water levels, ranging from approximately 23' to 29' bgs, demonstrate a flow direction toward the northwest.

2. The following QA/QC deficiencies were noted in the subject reports:

   - There are no initial and daily calibration data for all the monitoring reports.

   - There are no laboratory quality control check data for monitoring events of the third quarter of 1992, the third and fourth quarters of 1993, and the first quarter of 1994.

- There are no matrix spike/matrix spike duplicate data for the monitoring event of the third quarter of 1992.

- There are no trip and/or equipment blanks analyzed for all the monitoring events except the third quarter of 1992.

- Turbidity is very high (58-610) for samples collected from MW-1, MW-2, MW-3 and MW-4 during the monitoring event of the third quarter of 1992.

The above deficiencies compromise the ground water data. Although correction of these deficiencies may not have changed the qualitative measurements, it would increase the degree of confidence in the accuracy of the analyses. The omitted QA/QC data should be resubmitted.

Closure and Soil Remediation Report

This report presents the field procedures, analytical results, and recommendations based on the data collected and observations made during soil remediation. Field activities included removal of monitoring well MW-5, excavation and backfilling contaminated soil in the clarifier area, collection of soil samples, and disposal of contaminated soil. Upon review of this report, we have the following comments:

1. The subject facility was used for the manufacture of welding rods and wire by Stoody Company from 1976 to 1991, and is currently operated as a warehouse for dry goods. Site assessment and soil remediation from 1988 to 1993 focused on the drum storage-sump area in the northeast corner of the property and the transformer-clarifier area near the north wall of the building. These two areas and the general storage area in the north and northwest portion of the subject site were identified as the areas of concern by Board staff during a site inspection in 1988. Previous assessment work includes multi-phased soil matrix sampling (28 boreholes), collection and analyses of sump and clarifier samples, installation and sampling of five ground water monitoring wells (15 sampling events from February 1989 to March 1994).

2. The investigation and remedial results for the former drum storage/sump area are summarized as follows:

   - Soil matrix data from 6 shallow boreholes (maximum depth 10' bgs) and 2 deep (30' bgs) confirm vadous zone contamination from ground surface to the water table beneath the former sump and drum storage area, with maxima of 907 µg/kg PCE, 147 µg/kg TCE, 3,500 µg/kg *cis*-1,2-DCE, 700 µg/kg *trans*-1,2-DCE, 90 µg/kg toluene, 35 µg/kg xylene, 60 µg/kg acetone, and 180 mg/kg TRPH.

- Based on results from 12 ground water monitoring events from February 1989 to December 1992, ground water samples from MW2, a nearfield downgradient well, consistently contained higher PCE concentrations (43-280 µg/l) than samples from upgradient well MW4 (36-210 µg/l), indicating ground water contamination from on-site sources. Concentrations of other VOC compounds detected in ground water samples from these two wells were similar.

- The sump and associated contaminated soil (TRPH and VOCs) were removed in November and December, 1991.

- According to the results of the most recent ground water monitoring events (3 samplings from September, 1993, to March, 1994), PCE concentrations in water samples from downgradient well MW2 were less than from upgradient MW4 (96-150 µg/l versus 120-210 µg/l). This suggests that the remedial action may have mitigated the continuing source(s) of ground water contamination in this area.

3. The investigation and remedial results for the transformer and clarifier area are summarized as follows:

   - Soil matrix data confirmed that soil in the transformer-clarifier area has been contaminated with petroleum hydrocarbon (maximum 21,000 mg/kg TPRH) with less amounts of VOCs (maximum 10 µg/kg PCE, 8,800 µg/kg toluene, and 1,100 µg/kg acetone).

   - Over 500 tons of contaminated soil were excavated and hauled from the site from November, 1991, to November, 1993, in the transformer-clarifier area.

   - Compared with ground water samples from the upgradient wells (MW1, MW2, and MW4), water samples from MW5, the nearfield downgradient well in this area, generally contained similar VOC concentrations. These data suggest that there have been no significant impacts to ground water from contaminated soils in this area.

4. The investigation results for the general storage area are summarized as follows:

   - One borehole was drilled and converted to a ground water monitoring well (MW3) in the general storage area. Soil matrix samples collected at 1', 5', 10', and 25' bgs contained maximum 15 mg/kg TPH at 1'-5' bgs, and non-detectable concentrations for VOCs.

   - From December, 1990, to December, 1992, (8 monitoring events), ground water samples from MW3 generally contained

higher concentrations of certain VOC compounds than samples from upgradient wells. Those compounds include TCE (49-96 µg/l versus <0.5-58 µg/l), 1,1-DCE (25-56 µg/l versus 5.4-23 µg/l), 1,1,1-TCA (2.4-8.7 µg/l versus <0.5-4.7 µg/l), 1,2-DCA (<0.5-1.2 µg/l versus <0.5 µg/l), and carbon tetrachloride (<0.5-1.5 µg/l versus <0.5-0.9 µg/l). Although VOCs decreased substantially in ground water from MW3 in September, 1993, and March, 1994, (similar to or less than concentrations observed at the upgradient wells), samples from MW3 contained the highest VOC concentrations in December, 1993. These data suggest the possible existence of unidentified, untested on-site VOC sources.

5. The following QA/QC deficiencies were noted for the soil matrix analyses in the report:

   - There are no calibration (initial and daily), laboratory quality control (LQC) check, and surrogate recovery data for all the chemical analyses.

   - There are no matrix spike/matrix spike duplicate (MS/MSD) data for EPA 418.1 analyses on October 29, and November 4 and 8, 1994.

   - The MS/MSD data of 1,1-DCE exceed acceptable limits for EPA 8240 analyses for all the analyses.

   The above deficiencies compromise the soil matrix data. Although correction of these deficiencies may not have changed the qualitative measurements, it would increase the degree of confidence in the accuracy of the analyses. The omitted QA/QC data should be resubmitted.

6. The second page of Table 2 was omitted from the report and should be resubmitted.

Based on the data presented in this report and previous submissions, and after visiting the site on December 1, 1994, Board staff concur that impacted soil has been adequately assessed and remediated in the drum storage-sump and transformer-clarifier areas. We therefore have no further requirements regarding subsurface investigation or remediation at the subject site. Assessment data confirm VOC soil contamination from ground surface to the water table in the former drum storage-sump area, and ground water data appear to confirm ground water contamination from releases in this area. Also, ground water monitoring data from MW3 suggest that ground water may have been impacted as a result of releases of liquid wastes from other unidentified, and untested, on-site sources.

The jurisdictional requirements of other agencies, such as the U.S. Environmental Protection Agency (USEPA), are not affected by the Board's "no further action" determination. Such agencies may choose to make their own determination concerning the site.

Please contact Rueen-Fang Wang at (213) 266-7533 if you have any questions, and address all correspondence to her attention.

ERIC NUPEN, R. G.
Senior Engineering Geologist

cc: Phillip Ramsey, USEPA, Region 9
Dennis Dickerson, Cal-EPA, DTSC, Region 3
Don Howard, Howard Engineers, Puente Basin Watermaster
Carol Williams, San Gabriel Valley Watermaster
Gustavo Valdivia, Clayton Environmental Consultants

REFERENCE [14]

LETTER TO RWQCB
RESPONDING TO "NO FURTHER ACTION" LETTER
CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
15 MARCH 1995

Los Angeles Regional Office

5785 Corporate Avenue
Suite 150
Cypress, CA 90630-4733
(714) 229-4806
Fax (714) 229-4805

Clayton
ENVIRONMENTAL
CONSULTANTS

March 15, 1995

Ms. Rueen-Fang Wang
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
Los Angeles Region
101 Centre Plaza Drive
Monterey Park, California 91754

Clayton Project No. 41184.00
CRWQCB File No. 105.0263

Subject: Response to Letter of No Further Action dated January 31, 1995 for the Stoody Company Facility located at 16425 East Gale Avenue, Industry, California

Dear Ms. Wang:

In response to the request for additional information and comments referenced in the No Further Action Letter, dated January 31, 1995, attached please find Clayton's response.

Quarterly Groundwater Monitoring Reports

Reports reviewed by the CRWQCB: Third and fourth quarters of 1992, third and fourth quarters of 1993, and the first quarter of 1994.

CRWQCB comments:

1. "***Detected VOC concentrations during the latest ground water monitoring events are similar to previous sampling results, ranging from 9.3-280 µg/l PCE, 2.5-95 µg/l TCE, 0.7-44 µg/l 1,1- DCE, <0.5-4.3 µg/l 1,1,1-TCA, <0.5-0.9 µg/l carbon tetrachloride, and <0.5-0.66 µg/l 1,2-DCA. Measurements of ground water levels, ranging from approximately 23' to 29' bgs, demonstrate a flow direction toward the northwest.***"

Clayton concurs with the concentration ranges presented above. However, groundwater elevation data (measured above mean sea level) indicates that the groundwater flow direction is to the southwest. Other sections of the CRWQCB letter appear to be consistent with this (southwest) flow direction.

gv:stoody\3-14.ltr

2. ***"The following QA/QC deficiencies were noted in the subject reports:"***

- ***"There are no initial and daily calibration data for all the monitoring reports."***

The laboratories that were contracted by Clayton for all the monitoring events were certified by the California Health Department Environmental Laboratory Accreditation Program (ELAP). Initial and daily calibration data were performed, however, this information was not provided to Clayton or presented in the reports. Some of this information is still available in the laboratories' archives but it is not easily obtainable.

- ***"There are no laboratory quality control check data for monitoring events of the third quarter of 1992, the third and fourth quarters of 1993, and the first quarter of 1994".***

- ***"There are no matrix spike/matrix spike duplicate data for the monitoring event of the third quarter of 1992."***

Attachment A has the requested laboratory quality control data. Cross reference information for the QA/QC data is presented below.

Sampling Event	Lab Reference No.
Third Quarter 1992	92103.27
Fourth Quarter 1993	931224.44
First Quarter 1994	94030.83

- ***"There are no trip and/or equipment blanks analyzed for all the monitoring events except the third quarter of 1992".***

Clayton concurs with the above statement. Trip and/or equipment blanks were not performed in all the monitoring events.

- ***"Turbidity is very high (58-610) for samples collected from MW-1, MW-2, MW-3 and MW-4 during the monitoring event of the third quarter of 1992."***

Clayton concurs that the levels of groundwater turbidity were higher than the recommended levels during the third quarter of 1992 event. The chemical analyses, however, fall within the ranges of previous sampling events.

"The above deficiencies compromise the ground water data. Although correction of these deficiencies may not have changed the qualitative measurements, it

would increase the degree of confidence in the accuracy of the analyses. The omitted QA/QC data should be resubmitted."

Clayton concurs with the above statement. The missing QA/QC data is provided in Attachment A to increase the degree of confidence in the accuracy of the analyses submitted.

Closure and Soil Remediation Report

CRWQCB comments:

1. *"The subject facility was used for the manufacture of welding rods and wire by Stoody Company from 1976 to 1991, and is currently operated as a warehouse for dry goods. Site assessment and soil remediation from 1988 to 1993 focused on the drum storage-sump area in the northeast corner of the property and the transformer-clarifier area near the north wall of the building. These two areas and the general storage area in the north and northwest portion of the subject site were identified as the areas of concern by Board staff during a site inspection in 1988. Previous assessment work includes multi-phased soil matrix sampling (28 boreholes), collection and analyses of sump and clarifier samples, installation and sampling of five ground water monitoring wells (15 sampling events from February 1989 to March 1994)."*

Clayton concurs with the summary provided above.

2. *"The investigation and remedial results for the former drum storage/sump area are summarized as follows":*

- *"Soil matrix data from 6 shallow boreholes (maximum depth 10' bgs) and 2 deep (30' bgs) confirm vadose zone contamination from ground surface to the water table beneath the former sump and drum storage area, with maxima of 907 µg/kg PCE, 147 µg/kg TCE, 3,500 µg/kg cis-1,2-DCE, 700 µg/kg trans-1,2-DCE, 90 µg/kg toluene, 35 µg/kg xylene, 60 µg/kg acetone, and 180 mg/kg TRPH".*

Clayton concurs with the concentration maxima listed for the above-referenced compounds, however, the soil samples for TCE, *cis*-1,2 DCE, and *trans*-1,2 DCE were collected at only 1 foot below ground surface (bgs) and showed decreasing or

non-detected concentrations at 10 feet bgs (Clayton 1990[1], and CRWQCB 1990[2]). Therefore, Clayton does not agree that these results are a confirmation of groundwater contamination.

> ***"Based on results from 12 ground water monitoring events from February 1989 to December 1992, ground water samples from MW2, a nearfield downgradient well, consistently contained higher PCE concentrations (43-280 µg/l) than samples from upgradient well MW4 (36-210 µg/l), indicating ground water contamination from on-site sources. Concentrations of other VOC compounds detected in ground water samples from these two wells were similar".***

Clayton concurs with the concentration ranges for PCE in MW2 and MW4 as stated above. However, we do not agree that the concentration levels in MW-2 necessarily indicate contamination from onsite sources because the location of MW-2 is not directly downgradient from MW-4 (MW-1 is directly downgradient from MW-4). Therefore, the higher levels in MW-2 (which is near the property boundary) could indicate that the offsite source of contamination is closer to MW-2 than it is to MW-4.

- ***"The sump and associated contaminated soil (TRPH and VOCS) were removed in November and December, 1991."***

Clayton concurs with the above summary.

> ***"According to the results of the most recent ground water monitoring events (3 samplings from September, 1993, to March, 1994), PCE concentrations in water samples from downgradient well MW2 were less than from upgradient MW4 (96- 150 µg/l versus 120-210 µg/l). This suggests that the remedial action may have mitigated the continuing source(s) of ground water contamination in this area."***

The mitigation of the sump area was conducted in December 1991, which is the only suspect upgradient source for MW-2. Since this area was remediated, Clayton conducted seven groundwater sampling events. In the first four sampling events after the remediation (1st quarter 1992 to the 4th quarter 1992), PCE concentrations in MW2 were higher (210-280 µg/kg) than in MW-4 (160-200 µg/kg). In the last four

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[1] *Subsurface Soil Investigation and Industrial Clarifier Report*, Clayton Environmental Consultants, February 28, 1990

[2] Letter of *Workplan Directive*, California Regional Water Quality Control Board, October 22, 1990

sampling events, this condition was reversed as indicated in the results above. Furthermore, based on the location of wells MW-2 and MW-4 and the groundwater flow direction, it does not seem that MW-4 would be a good measurement of the groundwater upgradient of MW-2. Therefore, Clayton does not agree with the conclusions mentioned above.

3. ***"The investigation and remedial results for the transformer and clarifier area are summarized as follows":***

- ***"Soil matrix data confirmed that soil in the transformer-clarifier area has been contaminated with petroleum hydrocarbon (maximum 21,000 mg/kg TRPH) with less amounts of VOCs (maximum 10 µg/kg PCE, 8,800 µg/kg toluene, and 1,100 µg/kg acetone)".***

- ***"Over 500 tons of contaminated soil were excavated and hauled from the site from November, 1991, to November, 1993, in the transformer-clarifier area."***

- ***"Compared with ground water samples from the upgradient wells (MW1, MW2, and MW4), water samples from MW5, the nearfield downgradient well in this area, generally contained similar VOC concentrations. These data suggest that there have been no significant impacts to ground water from contaminated soils in this area".***

Clayton concurs with the summary provided above.

4. ***"The investigation results for the general storage area are summarized as follows:"***

- ***"One borehole was drilled and converted to a ground water monitoring well (MW3) in the general storage area. Soil matrix samples collected at 1', 5', 10', and 25' bgs contained maximum 15 mg/kg TPH at 1'-5' bgs, and nondetectable concentrations for VOCS".***

Clayton concurs with the information provided above.

- ***"From December, 1990, to December, 1992, (8 monitoring events), ground water samples from MW3 generally contained higher concentrations of certain VOC compounds than from upgradient wells. Those compounds include TCE (49-96 µg/l versus <0.5-58 µg/l), 1,1-DCE (25-56 µg/l versus 5.4-23 µg/l), 1,1,1-TCA (2.4-8.7 µg/l versus <0.5-4.7 µg/l), 1,2-DCA (<0. 5-1.2 µg/l versus <0.5 µg/l, and carbon tetrachloride (<0.5-1.5 µg/l versus <0.5-0.9 µg/l). Although VOCs decreased substantially in ground water from MW3 in September, 1993, and March, 1994, (similar to or less than concentrations***

observed at the upgradient wells), samples from MW3 contained the highest VOC concentrations in December, 1993. These data suggest the possible existence of unidentified, untested on-site VOC sources."

Clayton concurs with the concentration ranges provided above, however, we disagree that with the conclusions stated above because there are roughly 750 feet between MW-3 and the nearest upgradient monitoring well (MW-5). Therefore, the concentration differentials detected in MW-3 could indicate an offsite source.

5. ***"The following QA/QC deficiencies were noted for the soil matrix analyses in the report:"***

- ***"There are no calibration (initial and daily), laboratory quality control (LQC) check, and surrogate recovery data for all the chemical analyses."***
- ***"There are no matrix spike/matrix spike duplicate (MS/MSD) data for EPA 418.1 analyses on October 29, and November 4 and 8, 1994."***
- ***"The MS/MSD data of 1,1-DCE exceed acceptable limits for EPA 8240 analyses for all the analyses."***

"The above deficiencies compromise the soil matrix data. Although correction of these deficiencies may not have changed the qualitative measurements, it would increase the degree of confidence in the accuracy of the analyses. The omitted QA/QC data should be resubmitted."

Clayton concurs with the information provided above.

6. ***"The second page of Table 2 was omitted from the report and should be resubmitted."***

Attachment B contains the complete Table 2.

"Based on the data presented in this report and previous submissions, and after visiting the site on December 1, 1994, Board staff concur that impacted soil has been adequately assessed and remediated in the drum storage-sump and transformer-clarifier areas. We therefore have no further requirements regarding subsurface investigation or remediation at the subject site. Assessment data confirm VOC soil contamination from ground surface to the water table in the former drum storage-sump area, and ground water data appear to confirm ground water contamination from releases in this area. Also, ground water monitoring data from MW3 suggest that ground water may have been impacted as a result of releases of liquid wastes from other unidentified, and untested, on-site sources."

Clayton concurs with the evaluation of the assessment and remediation of the drum storage-sump and transformer-clarifier areas. However, we do not agree with the conclusions regarding VOCs contamination in the groundwater from releases in the drum storage-sump area or other onsite sources. Based on a chronological review of the soil analytical data, Clayton was unable to find any VOC contaminated soil below 10 feet bgs.

Please contact me at (714) 229-4806 if you have any questions about this letter.

Sincerely,

Gustavo Valdivia

Gustavo Valdivia
Project Engineer
Environmental Management Services
Los Angeles Regional Office

cc: Martin Casper, Thermadyne Industries
Stephanie Josephson, Mills and Partners
Kathy Kieffer, Thermadyne Industries
Eric Nupen, CRWQCB
Sandy Schafer, Clayton Environmental Consultants

Attachments